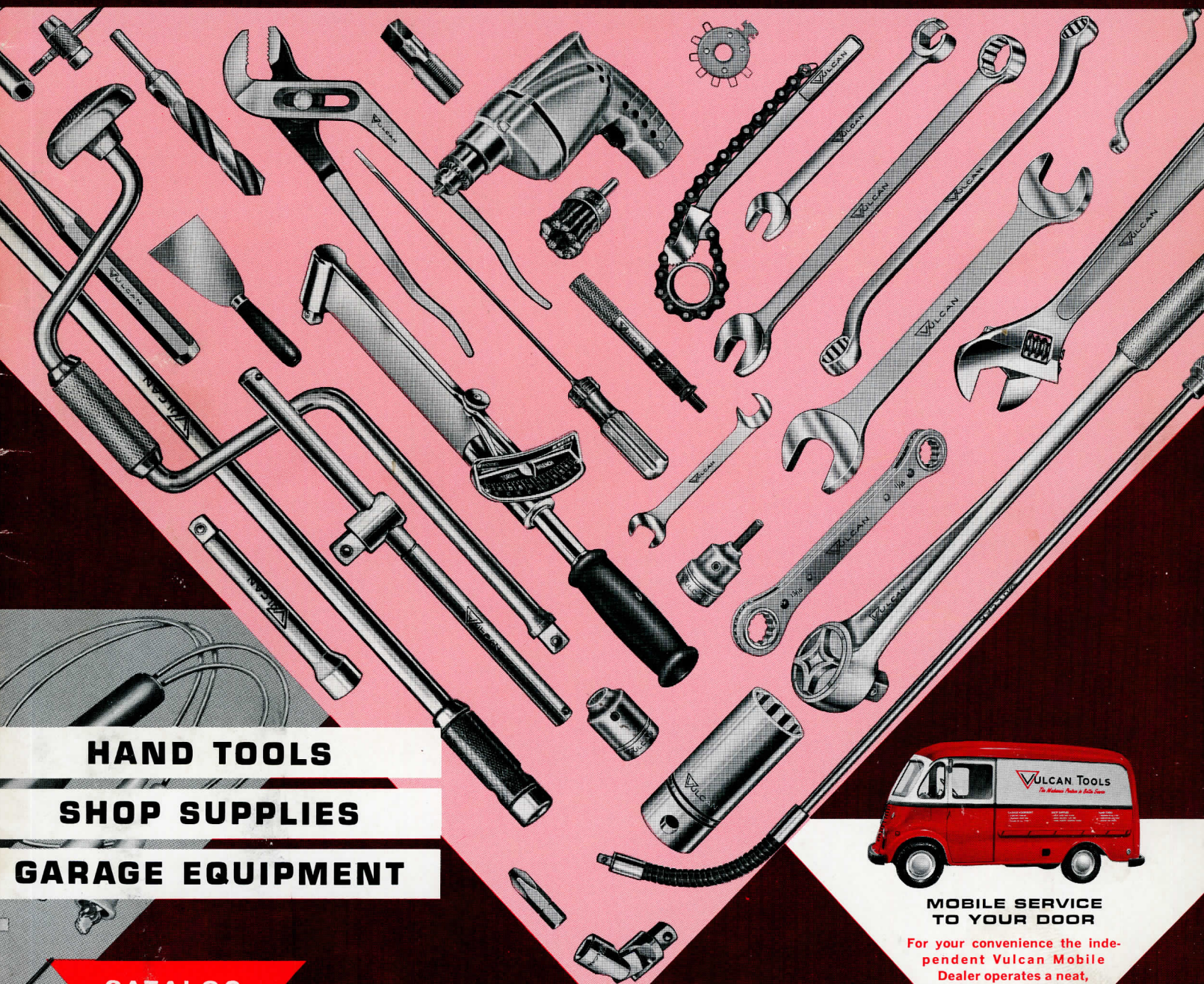




# VULCAN® TOOLS

*The Mechanic's Partner in Better Service*



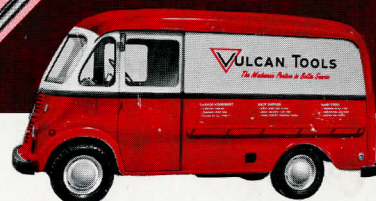
**HAND TOOLS**

**SHOP SUPPLIES**

**GARAGE EQUIPMENT**

**CATALOG  
NO. A-64**

PRINTED  
IN  
U. S. A.



**MOBILE SERVICE  
TO YOUR DOOR**

For your convenience the independent Vulcan Mobile Dealer operates a neat, well-stocked display room on wheels.

**VULCAN TOOLS**  
9028 GARLAND ROAD  
DALLAS, TEXAS 75218-DA 1-9947





**TRULY...** *The Mechanic's Partner in Better Service*

*In this vast line of Vulcan hand tools, shop supplies and garage equipment, mechanics will find only top quality tools designed to improve their personal performance on the job. By having a "tool partner" of such high caliber, the mechanic is able to do more work in less time at better profit to him.*

#### **VULCAN TOOLS IS A DIVISION OF UNITED-GREENFIELD CORPORATION**

Heretofore, United-Greenfield Corporation has confined itself to the industrial tool market for which several of its numerous plants have been producing tools of unexcelled quality for over a century.

With the introduction of Vulcan Tools division, the Corporation plans to extend its reputation for leadership throughout the broad automotive maintenance and repair field.

### **VULCAN. GUARANTEE**

**HAND TOOLS AND EQUIPMENT:** All Vulcan wrenches, sockets and other hand tools, as well as equipment of a non-electrical nature, are fully guaranteed to be free from imperfections of workmanship and materials. Any such Vulcan Tools products not meeting these requisites will be replaced free of charge. On items with more than one part, only the defective or broken part or parts will be replaced.

**ELECTRICAL TOOLS:** Should any electrically-driven tools, with self-contained motor, fail to operate after use, any parts found to be defective will be replaced or repaired at no cost provided the tool is returned within 90 days from date of purchase to an authorized repair depot.

**TUNE-UP AND TEST EQUIPMENT:** Guaranteed against defective materials and workmanship for one year from date of owner's purchase. Duratron Rectifier carries a two year guarantee.





## MOBILE SERVICE TO YOUR DOOR

For your convenience the independent Vulcan Mobile Dealer operates a neat, well-stocked display room on wheels. Here you can inspect and select hand tools, shop supplies and garage equipment of very finest quality. The Vulcan Dealer makes regularly scheduled stops so that he can show you the very latest developments in the automotive maintenance field and serve you with the tools and equipment you need...when you need them!

### **VULCAN.** **INDEPENDENT DEALER**

Your Vulcan Independent dealer is a highly trained representative who owns and operates his own local business. He is interested in serving you continuously with the best in tools. Should you have any ideas on new tools you believe would help you in your work, he will be glad to discuss them with you. He, in turn, will pass your thoughts on to the factory for research and development.

### **VULCAN.** **MOBILE DEALER FRANCHISE**

The Vulcan Mobile Dealer Franchise offers excellent opportunity for independence and future security. Occasionally such a franchise may be available in or around your locality. Should you know of anyone who would like to own and operate his own business, have him contact Vulcan Tools for full information and interview.

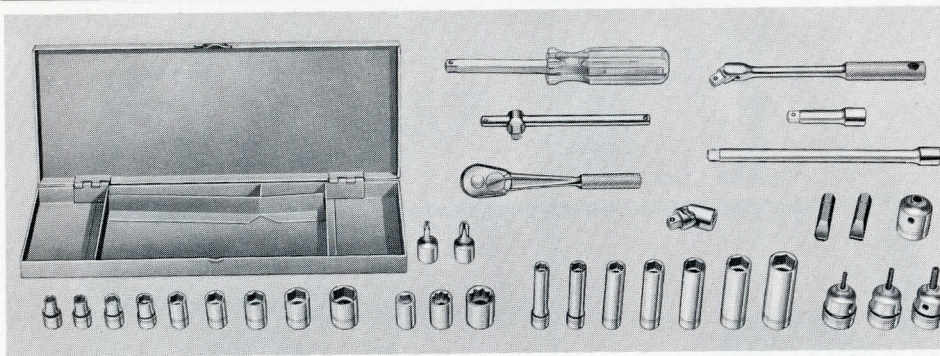


**VULCAN TOOLS**  
2300 KENMORE AVENUE  
BUFFALO, NEW YORK 14207

DIVISION OF  
 **United-  
Greenfield**  
CORPORATION

THE MECHANIC'S PARTNER IN BETTER SERVICE



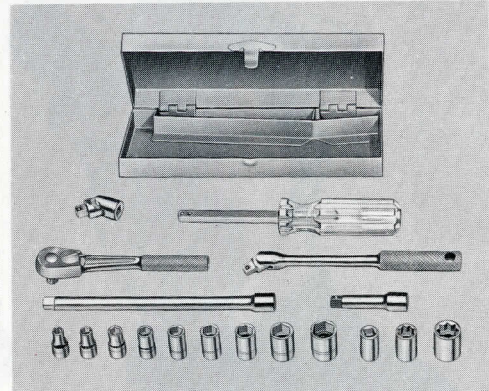


34 TOOLS IN SET

**L-234B MASTER MECHANICS SET — 34 Tools in MB-102 Metal Box**  
**L-234 MASTER MECHANICS SET — 34 Tools without Metal Box**

A fine set of 1/4" drive precision tools for Master Mechanics doing work on small, intricate electronic and mechanical instruments. Excellent for carburetor and distributor repair and adjustment. All 34 tools are precision machined to exacting tolerances.

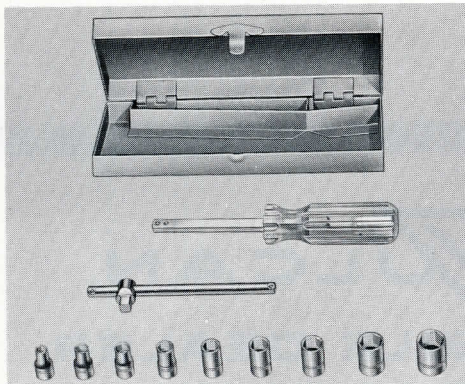
Stock No.	Description	Stock No.	Description
M-606	Socket, 3/16" 6 Point	M-810	Socket, 5/16" 8 Point
M-607	Socket, 7/32" 6 Point	M-812	Socket, 3/8" 8 Point
M-608	Socket, 1/4" 6 Point	MP-1	Phillips Bit, #1
M-609	Socket, 5/32" 6 Point	MP-2	Phillips Bit, #2
M-610	Socket, 3/16" 6 Point	MA-3	Hex Bit Socket, 3/32"
M-611	Socket, 11/32" 6 Point	MA-4	Hex Bit Socket, 1/8"
M-612	Socket, 3/8" 6 Point	MA-5	Hex Bit Socket, 5/32"
M-614	Socket, 7/16" 6 Point	MA-10-1	Socket for 3/16" Hex Bits
M-616	Socket, 1/2" 6 Point	AS-1	5/16" Hex Slotted Screw Bit, .032
MD-608	Deep Socket, 1/4" 6 Point	AS-2	3/8" Hex Slotted Screw Bit, .040
MD-609	Deep Socket, 5/32" 6 Point	M-20A	Sliding T Handle
MD-610	Deep Socket, 3/16" 6 Point	M-42	Flex Handle
MD-611	Deep Socket, 11/32" 6 Point	M-51	Ratchet
MD-612	Deep Socket, 3/8" 6 Point	M-106	Spin Handle
MD-614	Deep Socket, 7/16" 6 Point	M-102	Extension, 2"
MD-616	Deep Socket, 1/2" 6 Point	M-115	Extension, 6"
M-408	Socket, 1/4" 4 Point	M-140	Universal Joint



**L-218B BASIC SET — 18 Tools in MB-101 Box**  
**L-218 BASIC SET — 18 Tools without Box**

The most needed 1/4" drive tools to help you do a better job in less time. A fine assortment of sockets and attachments.

Stock No.	Description
M-606	Socket, 3/16" 6 Point
M-607	Socket, 7/32" 6 Point
M-608	Socket, 1/4" 6 Point
M-609	Socket, 5/32" 6 Point
M-610	Socket, 3/16" 6 Point
M-611	Socket, 11/32" 6 Point
M-612	Socket, 3/8" 6 Point
M-614	Socket, 7/16" 6 Point
M-616	Socket, 1/2" 6 Point
M-408	Socket, 1/4" 4 Point
M-810	Socket, 5/16" 8 Point
M-812	Socket, 3/8" 8 Point
M-42	Flex Handle
M-51	Ratchet
M-106	Spin Handle
M-102	Extension, 2"
M-115	Extension, 6"
M-140	Universal Joint

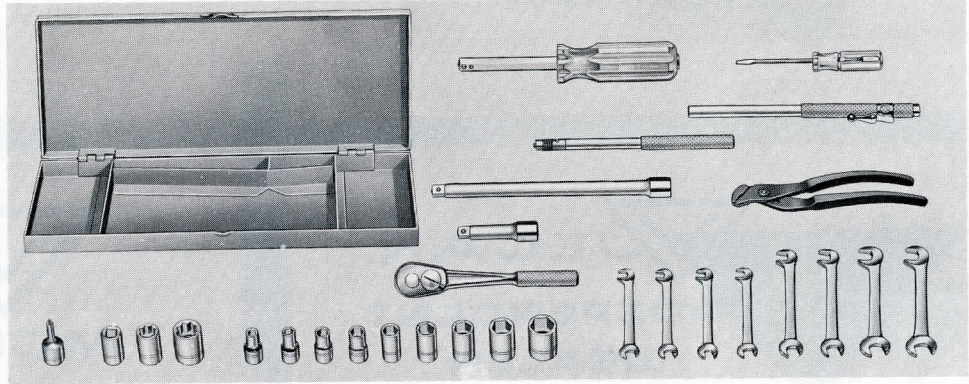


11 TOOLS IN SET

**L-211B STARTER SET — 11 Tools in MB-101 Box**  
**L-211 STARTER SET — 11 Tools without Box**

A versatile set of 1/4" drive hex sockets from 3/16" to 1/2" plus necessary handles to put you on the road to greater profits.

Stock No.	Description
M-606	Socket, 3/16" 6 Point
M-607	Socket, 7/32" 6 Point
M-608	Socket, 1/4" 6 Point
M-609	Socket, 5/32" 6 Point
M-610	Socket, 3/16" 6 Point
M-611	Socket, 11/32" 6 Point
M-612	Socket, 3/8" 6 Point
M-614	Socket, 7/16" 6 Point
M-616	Socket, 1/2" 6 Point
M-20A	Sliding Handle
M-106	Spin Handle

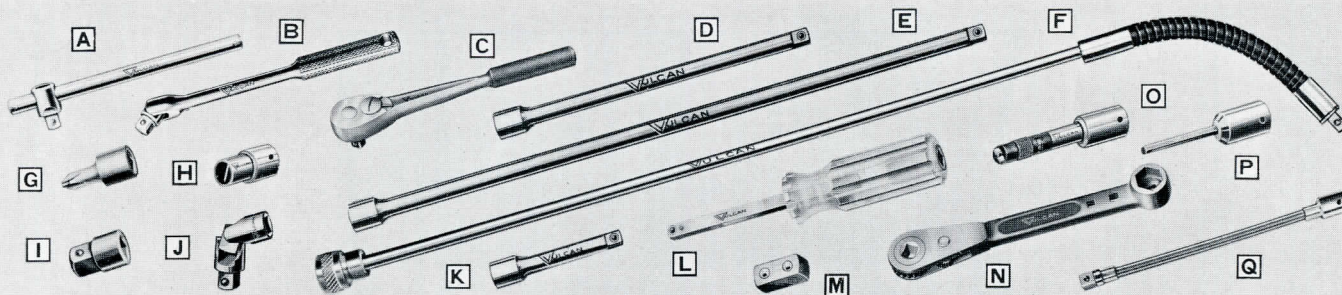


**L-229EB ELECTRICAL SERVICE SET — 29 Tools in MB-102 Metal Box**  
**L-229E ELECTRICAL SERVICE SET — 29 Tools without Metal Box**

Selected 1/4" drive tools for the electrical repair and assembly men. Each tool is designed, machined, heat-treated and finished for your greater satisfaction.

Stock No.	Description	Stock No.	Description
M-606	Socket, 3/16" 6 Point	M-106	Spin Handle, 6"
M-607	Socket, 7/32" 6 Point	MP-1	Phillips Bit, #1
M-608	Socket, 1/4" 6 Point	1101	Ignition Wrench, 13/64" x 15/64"
M-609	Socket, 5/32" 6 Point	1101A	Ignition Wrench, 15/64" x 13/64"
M-610	Socket, 3/16" 6 Point	1102	Ignition Wrench, 7/32" x 1/4"
M-611	Socket, 11/32" 6 Point	1102A	Ignition Wrench, 1/4" x 7/32"
M-612	Socket, 3/8" 6 Point	1103	Ignition Wrench, 7/32" x 5/16"
M-614	Socket, 7/16" 6 Point	1103A	Ignition Wrench, 5/16" x 7/32"
M-616	Socket, 1/2" 6 Point	1104	Ignition Wrench, 11/32" x 3/8"
M-408	Socket, 1/4" 4 Point	1104A	Ignition Wrench, 3/8" x 11/32"
M-810	Socket, 5/16" 8 Point	PL-105	Ignition Plier, 5"
M-812	Socket, 3/8" 8 Point	SDI-2	Screw Driver, 2"
M-102	Extension, 2"	PTM-6	Magnet, 6"
M-115	Extension, 6"	SS-50	Screw Starter, 5"
M-51	Ratchet, 5"		





## A M-20A SLIDING T HANDLE

Sliding head adaptor can be placed anywhere on the bar. Tension ball holds position. Overall length, 4 1/2".

## B M-42 FLEX HANDLE

Flexible head permits use in close quarters. Knurled grip has cross hole for sliding bar. Overall length, 5 3/4".

## C M-51 REVERSIBLE RATCHET

Has 24 teeth in ratchet gear instead of usual 14 to 20. Shift lever reverses action instantly. Nicely proportioned with knurled handle grip. Length, 5".

## D M-115 EXTENSION BAR

Overall length, 6".

## E M-116 EXTENSION BAR

Overall length, 14".

## F MFD-1 FLEXIBLE DRIVER

Clears such obstruction as air cleaners, etc., when working on dual and four barrel carburetors. Knurled drive knob is shaft connected to 3 1/2" flexible 1/4" drive male end. Overall length, 21".

## G MP-1 PHILLIPS BIT

No. 1 Phillips Screw Bit. Length 1 1/4".

## MP-2 PHILLIPS BIT

No. 2 Phillips Screw Bit. Length, 1 1/4".

## H MSD-1 SCREW DRIVER ADAPTOR

Blade is recessed in socket wall providing a self centering feature for carburetor work. Length, 1 1/2".

## I MB-130 ADAPTOR

1/4" Square female and 3/8" square male. Adapts 1/4" drivers to 3/8" drive sockets.

## MB-131 ADAPTOR

1/4" Square male and 3/8" square female. Adapts 3/8" drivers to 1/4" drive sockets.

## J M-140 UNIVERSAL JOINT

Readily adapts any 1/4" drive socket and driver. Spring tension holds angle.

## K M-102 EXTENSION BAR

Overall length, 2".

## L M-106 SPINNER HANDLE

Comfortable plastic grip has 1/4" square drive hole in end. Can also be used as an extension. Overall length, 6".

## M M-150 ADAPTOR

Plug adaptor 3/4" long with 1/4" square male both ends.

## N MR-51 REFRIGERATION RATCHET

This drop-forged reversible ratchet has 1/4" female drive in head plus 5/16", 1/4" and 3/8" square openings and 1/2" hex opening in handle for delicate adjustment of valve stems. Overall length, 6".

## O MSS-1 SCREW STARTER ADAPTOR

Screw starting is made easy with this 3" adaptor which can be combined with MFD-1 Flexible Driver for hard to reach spots.

## P MHB-4 HEX ADAPTOR

1/8" Hex shaft extends 2" beyond socket.

## Q MFE-6 FLEXIBLE EXTENSION

Extremely useful in close quarters and hard to reach spots. Exceptionally durable flexible cable is 5/16" diameter. Overall length, 6".



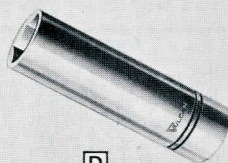
A



B



C



D



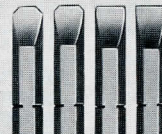
E



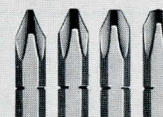
F



G



H



I

## A SINGLE SQUARE SOCKETS

Four-point sockets from 3/16" to 1/4" and double square in 5/16" and 3/8" (B) below.

Opening Size	Stock No.	Nose Diameter	Length
3/16	M-406	7/16	27/32
1/8	M-407	15/32	27/32
1/4	M-408	1/2	27/32

## B DOUBLE SQUARE SOCKETS

Opening Size	Stock No.	Nose Diameter	Length
5/16	M-810	9/16	27/32
3/8	M-812	11/16	27/32

## C HEX AND 12-POINT SOCKETS

Made from selected alloy steel. Openings accurately formed for sure fit and long life.

Opening Size	Stock No.		Nose Diameter	Length
	Hex	12-Point		
3/16	M-606	.....	15/64	27/32
1/8	M-607	.....	21/64	27/32
1/4	M-608	M-1208	23/64	27/32
5/16	M-609	M-1209	13/32	27/32
3/8	M-610	M-1210	29/64	27/32
7/16	M-611	M-1211	31/64	27/32
1/2	M-612	M-1212	33/64	27/32
5/8	M-614	.....	39/64	27/32
3/4	M-616	.....	43/64	27/32

## D SINGLE HEX DEEP SOCKETS

Smooth broached 6-point openings are held to minimum tolerances for longer life.

Opening Size	Stock No.	Nose Diameter	Length
1/4	MD-608	23/64	2
5/16	MD-609	13/32	2
3/8	MD-610	29/64	2
7/16	MD-611	31/64	2
1/2	MD-612	33/64	2
5/8	MD-614	39/64	2
3/4	MD-616	43/64	2

## E HEX BIT SOCKETS WITH BITS

"Nylok" screw holds hex bit securely and allows rapid bit reversal or replacement.

Hex Bit Size	Stock No.	Drive End Diameter	Length
3/32	MA-3	13/16	1 5/8
1/8	MA-4	1 1/16	1 11/16
5/32	MA-5	1 1/8	1 11/16

## F SHORT HEX BITS

Exceptionally hard hex bits for driving Allen type screws. May be reversed.

Hex Bit Size	Stock No.	Fits Socket No.	Length
3/32	A-3	MA-3	1 1/16
1/8	A-4	MA-4	1 1/8
5/32	A-5	MA-5	1 1/8
3/16	A-10	MA-10-1	1 1/4

## G 5/16" HEX BIT SOCKET ONLY

The MA-10-1 bit socket has 5/16" hex opening and is furnished with the A-3S "Nylok" screw for bit retention. May be used with Slotted (H), Phillips (I) and A-10 (F) bits.

Hex Bit Size	Stock No.	Drive End Diameter	Length
5/16	MA-10-1	13/16	27/32
	A-3S	"Nylok" screw only	
	HW-6	3/32 Wrench for screw	

## H 5/16" HEX SLOTTED SCREW BITS

Bits for slotted type screws designed for use with MA-10-1. Hardened alloy steel.

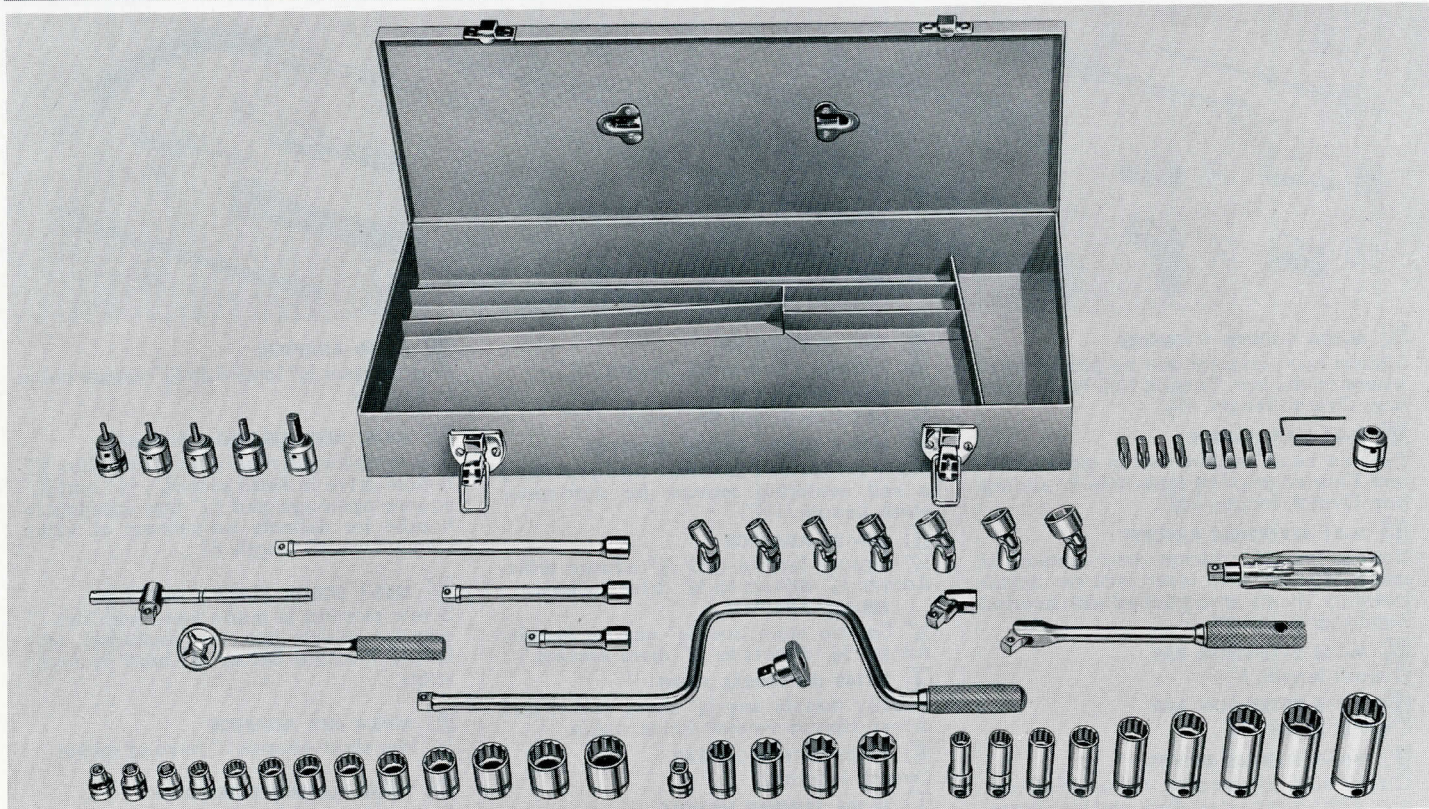
Blade Width	Stock No.	Blade Thickness	Length
3/16	AS-1	.032	1 1/2
1/8	AS-2	.040	1 1/2
5/32	AS-3	.045	1 1/2
3/16	AS-4	.055	1 1/2

## I 5/16" HEX PHILLIPS SCREW BITS

Hex Bits for Phillips screws are properly heat-treated alloy steel. Use with MA-10-1.

Bit Size	Stock No.	Fits Screws	Length
No. 1	AP-1	4, smaller	1 1/4
No. 2	AP-2	5 to 9	1 1/4
No. 3	AP-3	10 to 16	1 1/4
No. 4	AP-4	18, larger	1 1/4





## 59 TOOLS IN SET

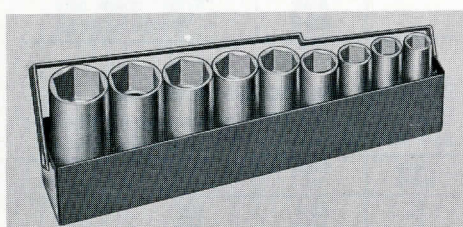
L-359B MASTER MECHANICS SET — 59 Tools in MB-105 Metal Box

L-359 MASTER MECHANICS SET — 59 Tools without Metal Box

This is a complete set of the most used  $\frac{3}{8}$ " drive sockets, attachments and handles for the mechanic who wants the best. It is

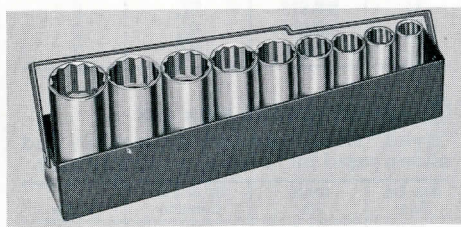
void of the usual tools which are almost never used thus providing you with a set you can really be proud to own.

Stock No.	Description	Stock No.	Description	Stock No.	Description	Stock No.	Description
B-608	Socket, $\frac{1}{4}$ " 6 Point.....	BD-1216	Deep Socket, $\frac{1}{2}$ " 12 Point.....	BU-618	Universal, $\frac{1}{16}$ " 6 Point.....	AP-2	$\frac{5}{16}$ " Hex Phillips Bit, #2.....
B-610	Socket, $\frac{5}{16}$ " 6 Point.....	BD-1218	Deep Socket, $\frac{5}{8}$ " 12 Point.....	BU-620	Universal, $\frac{3}{8}$ " 6 Point.....	AP-3	$\frac{3}{16}$ " Hex Phillips Bit, #3.....
B-611	Socket, $\frac{11}{32}$ " 6 Point.....	BD-1220	Deep Socket, $\frac{3}{4}$ " 12 Point.....	BU-622	Universal, $\frac{1}{2}$ " 6 Point.....	AP-4	$\frac{5}{16}$ " Hex Phillips Bit, #4.....
B-1212	Socket, $\frac{3}{8}$ " 12 Point.....	BD-1222	Deep Socket, $\frac{1}{16}$ " 12 Point.....	BU-624	Universal, $\frac{3}{4}$ " 6 Point.....	HW-6	Set Screw Wrench.....
B-1214	Socket, $\frac{7}{16}$ " 12 Point.....	BD-1224	Deep Socket, $\frac{3}{4}$ " 12 Point.....	BA-5	Hex Bit Socket, $\frac{5}{32}$ ".....	B-15	Speeder.....
B-1216	Socket, $\frac{1}{2}$ " 12 Point.....	BD-1226	Deep Socket, $\frac{13}{16}$ " 12 Point.....	BA-6	Hex Bit Socket, $\frac{3}{16}$ ".....	B-20A	Sliding T Handle.....
B-1218	Socket, $\frac{5}{8}$ " 12 Point.....	BD-1228	Deep Socket, $\frac{7}{8}$ " 12 Point.....	BA-7	Hex Bit Socket, $\frac{7}{32}$ ".....	B-40	Flex Handle.....
B-1219	Socket, $\frac{15}{32}$ " 12 Point.....	B-409	Socket, $\frac{3}{32}$ " 4 Point.....	BA-8	Hex Bit Socket, $\frac{1}{4}$ ".....	B-52	Ratchet.....
B-1220	Socket, $\frac{5}{8}$ " 12 Point.....	BD-814	Deep Socket, $\frac{7}{16}$ " 8 Point.....	BA-10	Hex Bit Socket, $\frac{5}{16}$ ".....	B-70	Ratchet Spinner.....
B-1222	Socket, $\frac{11}{16}$ " 12 Point.....	BD-816	Deep Socket, $\frac{1}{2}$ " 8 Point.....	BA-12	Hex Bit Socket, $\frac{3}{8}$ ".....	B-106	Spin Handle.....
B-1224	Socket, $\frac{3}{4}$ " 12 Point.....	BD-818	Deep Socket, $\frac{1}{2}$ " 8 Point.....	AS-1	$\frac{5}{16}$ " Hex Slotted Screw Bit, .032.....	B-108	Extension, 3".....
B-1226	Socket, $\frac{13}{16}$ " 12 Point.....	BD-820	Deep Socket, $\frac{5}{8}$ " 8 Point.....	AS-2	$\frac{5}{16}$ " Hex Slotted Screw Bit, .040.....	B-110	Extension, 5 1/2".....
B-1228	Socket, $\frac{7}{8}$ " 12 Point.....	BU-612	Universal, $\frac{3}{8}$ " 6 Point.....	AS-3	$\frac{5}{16}$ " Hex Slotted Screw Bit, .045.....	B-115	Extension, 10 1/2".....
BD-1212	Deep Socket, $\frac{3}{8}$ " 12 Point.....	BU-614	Universal, $\frac{1}{2}$ " 6 Point.....	AS-4	$\frac{5}{16}$ " Hex Slotted Screw Bit, .055.....	B-140	Universal Joint.....
BD-1214	Deep Socket, $\frac{7}{16}$ " 12 Point.....	BU-616	Universal, $\frac{1}{2}$ " 6 Point.....	AP-1	$\frac{5}{16}$ " Hex Phillips Bit, #1.....		



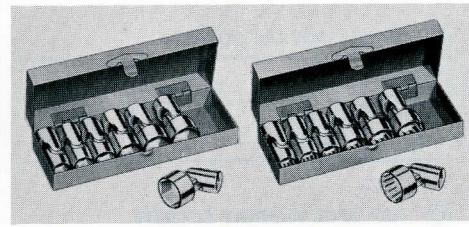
LD-3609T 9 Hex DEEP SOCKETS in MB-21 Tray  
LD-3609 9 Hex DEEP SOCKETS without Tray  
Deep sockets with 6-point openings from  $\frac{3}{8}$ " through  $\frac{7}{8}$ ". Nine sockets as shown.

Stock No.	Description
BD-612	Deep Socket, $\frac{3}{8}$ " 6 Point.....
BD-614	Deep Socket, $\frac{7}{16}$ " 6 Point.....
BD-616	Deep Socket, $\frac{1}{2}$ " 6 Point.....
BD-618	Deep Socket, $\frac{5}{8}$ " 6 Point.....
BD-620	Deep Socket, $\frac{3}{4}$ " 6 Point.....
BD-622	Deep Socket, $\frac{1}{16}$ " 6 Point.....
BD-624	Deep Socket, $\frac{3}{4}$ " 6 Point.....
BD-626	Deep Socket, $\frac{13}{16}$ " 6 Point.....
BD-628	Deep Socket, $\frac{7}{8}$ " 6 Point.....



LD-3209T 9 12-Pt. DEEP SOCKETS in MB-21 Tray  
LD-3209 9 12-Pt. DEEP SOCKETS without Tray  
Deep double hexagon sockets from  $\frac{3}{8}$ " thru  $\frac{7}{8}$ " openings. Bright nickel-chrome finish.

Stock No.	Description
BD-1212	Deep Socket, $\frac{3}{8}$ " 12 Point.....
BD-1214	Deep Socket, $\frac{7}{16}$ " 12 Point.....
BD-1216	Deep Socket, $\frac{1}{2}$ " 12 Point.....
BD-1218	Deep Socket, $\frac{5}{8}$ " 12 Point.....
BD-1220	Deep Socket, $\frac{3}{4}$ " 12 Point.....
BD-1222	Deep Socket, $\frac{1}{16}$ " 12 Point.....
BD-1224	Deep Socket, $\frac{3}{4}$ " 12 Point.....
BD-1226	Deep Socket, $\frac{13}{16}$ " 12 Point.....
BD-1228	Deep Socket, $\frac{7}{8}$ " 12 Point.....

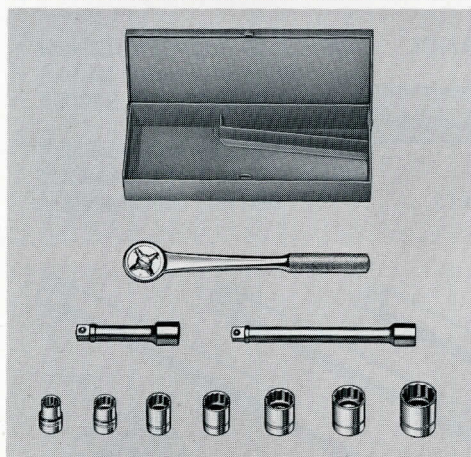


LU-3607B 7 Hex UNIVERSALS in MB-25 Box  
LU-3607 7 Hex UNIVERSALS without Box  
LU-3207B 7 12-Pt. UNIVERSALS in MB-25 Box  
LU-3207 7 12-Pt. UNIVERSALS without Box

Stock No.		Description
Hex	12 Pt.	
BU-612	BU-1212	Universal, $\frac{3}{8}$ ".....
BU-614	BU-1214	Universal, $\frac{7}{16}$ ".....
BU-616	BU-1216	Universal, $\frac{1}{2}$ ".....
BU-618	BU-1218	Universal, $\frac{5}{8}$ ".....
BU-620	BU-1220	Universal, $\frac{3}{4}$ ".....
BU-622	BU-1222	Universal, $\frac{1}{16}$ ".....
BU-624	BU-1224	Universal, $\frac{3}{4}$ ".....



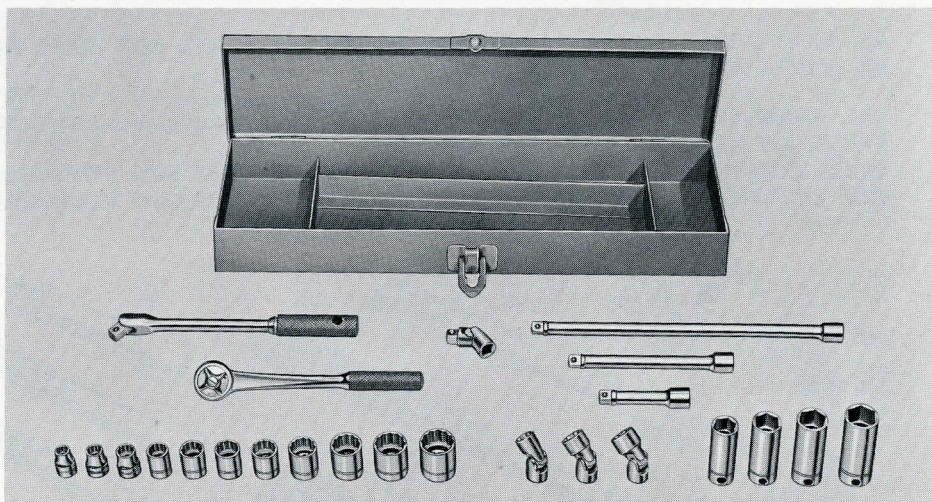
# 3/8 INCH SQUARE DRIVE SOCKET WRENCH SETS



**L-310B STARTER SET — 10 Tools in MB-103 Box**  
**L-310 STARTER SET — 10 Tools without Box**

A  $\frac{3}{8}$ " drive set of tools on which to build your future. All of the essential tools.

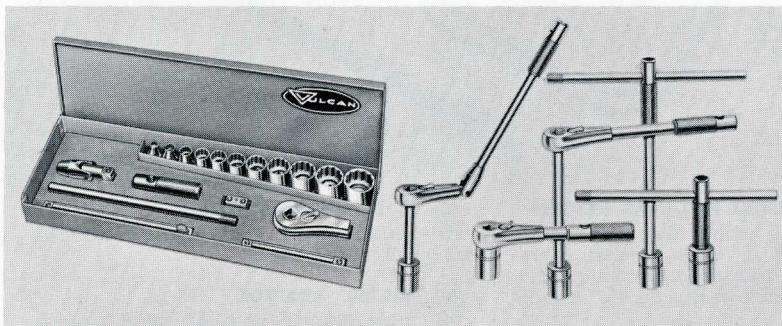
Stock No.	Description
B-1212	Socket, $\frac{3}{8}$ " 12 Point.....
B-1214	Socket, $\frac{1}{2}$ " 12 Point.....
B-1216	Socket, $\frac{1}{2}$ " 12 Point.....
B-1218	Socket, $\frac{3}{4}$ " 12 Point.....
B-1220	Socket, $\frac{1}{2}$ " 12 Point.....
B-1222	Socket, $\frac{1}{2}$ " 12 Point.....
B-1224	Socket, $\frac{3}{4}$ " 12 Point.....
B-52	Ratchet .....
B-108	Extension, 3".....
B-110	Extension, 5 $\frac{1}{2}$ ".....



**L-324B BASIC MECHANICS SET — 24 Tools in MB-104 Metal Box**  
**L-324 BASIC MECHANICS SET — 24 Tools without Metal Box**

A complete basic set with turning capacity through  $\frac{7}{8}$ ". Here is a set of carefully selected  $\frac{3}{8}$ " drive tools for most jobs.

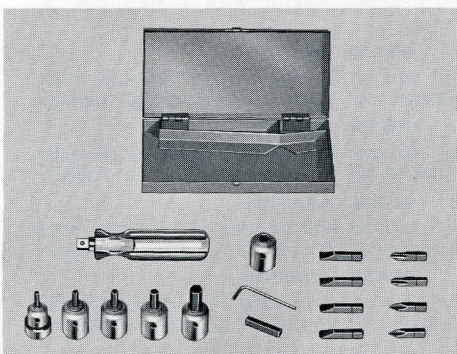
Stock No.	Description	Stock No.	Description	Stock No.	Description
B-1210	Socket, $\frac{5}{16}$ " 12 Pt.....	B-1224	Socket, $\frac{3}{4}$ " 12 Pt.....	BU-1218	Universal, $\frac{5}{16}$ " 12 Pt.....
B-1212	Socket, $\frac{3}{8}$ " 12 Pt.....	B-1226	Socket, $\frac{13}{16}$ " 12 Pt.....	BU-1220	Universal, $\frac{5}{8}$ " 12 Pt.....
B-1214	Socket, $\frac{7}{16}$ " 12 Pt.....	B-1228	Socket, $\frac{7}{8}$ " 12 Pt.....	B-40	Flex Handle .....
B-1216	Socket, $\frac{1}{2}$ " 12 Pt.....	BD-620	Dp. Socket, $\frac{5}{8}$ " 6 Pt.....	B-52	Ratchet .....
B-1218	Socket, $\frac{9}{16}$ " 12 Pt.....	BD-622	Dp. Socket, $\frac{11}{16}$ " 6 Pt.....	B-108	Extension, 3".....
B-1219	Socket, $\frac{19}{32}$ " 12 Pt.....	BD-624	Dp. Socket, $\frac{3}{4}$ " 6 Pt.....	B-110	Extension, 5 $\frac{1}{2}$ ".....
B-1220	Socket, $\frac{5}{8}$ " 12 Pt.....	BD-626	Dp. Socket, $\frac{13}{16}$ " 6 Pt.....	B-115	Extension, 10 $\frac{1}{2}$ ".....
B-1222	Socket, $\frac{11}{16}$ " 12 Pt.....	BU-1216	Universal, $\frac{1}{2}$ " 12 Pt.....	B-140	Universal Joint .....



**L-318B COMBO SET — 18 Tools in Metal Box**

With only seven basic driver parts you can make hundreds of different drive combinations from a Flex Head Ratchet to a Sliding Tee or Flex Handle.

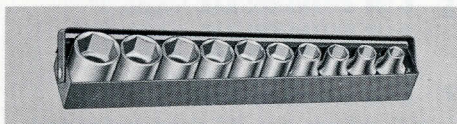
Stock No.	Description	Stock No.	Description
B-1208	Socket, $\frac{1}{4}$ " 12 Pt.....	B-1226	Socket, $\frac{13}{16}$ " 12 Pt.....
B-1210	Socket, $\frac{5}{16}$ " 12 Pt.....	B-1228	Socket, $\frac{7}{8}$ " 12 Pt.....
B-1212	Socket, $\frac{3}{8}$ " 12 Pt.....	BT-20	Tee Bar .....
B-1214	Socket, $\frac{7}{16}$ " 12 Pt.....	BT-40	Flex Head .....
B-1216	Socket, $\frac{1}{2}$ " 12 Pt.....	BT-50	Ratchet Head .....
B-1218	Socket, $\frac{9}{16}$ " 12 Pt.....	BT-70	Grip .....
B-1220	Socket, $\frac{5}{8}$ " 12 Pt.....	BT-104	Extension, 3 $\frac{3}{4}$ ".....
B-1222	Socket, $\frac{11}{16}$ " 12 Pt.....	BT-106	Extension, 6".....
B-1224	Socket, $\frac{3}{4}$ " 12 Pt.....	BT-150	Plug Connector .....



**LST-316B SCREW TURNING SET in MB-101 Box**  
**LST-316 TOOL SET — 16 Tools without Box**

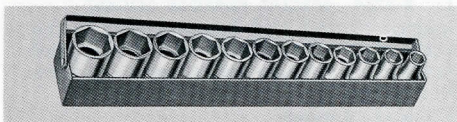
A compact set of  $\frac{3}{8}$ " drive tools for most screw turning jobs. "Nylock" holding screw.

Stock No.	Description	Stock No.	Description
BA-5	Hex Bit Skt., $\frac{5}{32}$ ".....	AS-3	Slotted Bit, .045 .....
BA-6	Hex Bit Skt., $\frac{3}{16}$ ".....	AS-4	Slotted Bit, .055 .....
BA-7	Hex Bit Skt., $\frac{1}{8}$ ".....	AP-1	Phillips Bit, #1 .....
BA-8	Hex Bit Skt., $\frac{1}{4}$ ".....	AP-2	Phillips Bit, #2 .....
BA-10	Hex Bit Skt., $\frac{3}{8}$ ".....	AP-3	Phillips Bit, #3 .....
BA-12	Hex Bit Skt., $\frac{1}{2}$ ".....	AP-4	Phillips Bit, #4 .....
AS-1	Slotted Bit, .032 .....	HW-6	Set Screw Wrench .....
AS-2	Slotted Bit, .040 .....	B-106	Spin Hdle., $\frac{3}{8}$ x4 $\frac{3}{8}$ .....



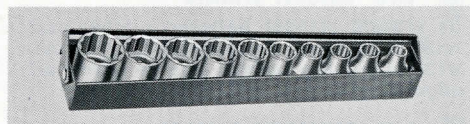
**LR-3610T 10 Hex SOCKETS in MB-20 Tray**  
**LR-3610 10 Hex SOCKETS without Tray**

Stock No.	Description	Stock No.	Description
B-608	Skt., $\frac{1}{4}$ " 6 Pt.....	B-616	Skt., $\frac{1}{2}$ " 6 Pt.....
B-610	Skt., $\frac{5}{16}$ " 6 Pt.....	B-618	Skt., $\frac{3}{8}$ " 6 Pt.....
B-611	Skt., $\frac{11}{32}$ " 6 Pt.....	B-620	Skt., $\frac{5}{8}$ " 6 Pt.....
B-612	Skt., $\frac{3}{8}$ " 6 Pt.....	B-622	Skt., $\frac{11}{16}$ " 6 Pt.....
B-614	Skt., $\frac{7}{16}$ " 6 Pt.....	B-624	Skt., $\frac{3}{4}$ " 6 Pt.....



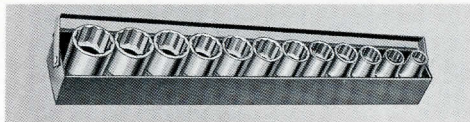
**LR-3612T 12 Hex SOCKETS in MB-22 Tray**  
**LR-3612 12 Hex SOCKETS without Tray**

Stock No.	Description	Stock No.	Description
B-608	Skt., $\frac{1}{4}$ " 6 Pt.....	B-618	Skt., $\frac{3}{8}$ " 6 Pt.....
B-610	Skt., $\frac{5}{16}$ " 6 Pt.....	B-620	Skt., $\frac{5}{8}$ " 6 Pt.....
B-611	Skt., $\frac{11}{32}$ " 6 Pt.....	B-622	Skt., $\frac{11}{16}$ " 6 Pt.....
B-612	Skt., $\frac{3}{8}$ " 6 Pt.....	B-624	Skt., $\frac{3}{4}$ " 6 Pt.....
B-614	Skt., $\frac{7}{16}$ " 6 Pt.....	B-626	Skt., $\frac{13}{16}$ " 6 Pt.....
B-616	Skt., $\frac{1}{2}$ " 6 Pt.....	B-628	Skt., $\frac{7}{8}$ " 6 Pt.....



**LR-3210T 10 12-Pt. SOCKETS in MB-20 Tray**  
**LR-3210 10 12-Pt. SOCKETS without Tray**

Stock No.	Description	Stock No.	Description
B-1208	Skt., $\frac{1}{4}$ " 12 Pt.....	B-1216	Skt., $\frac{1}{2}$ " 12 Pt.....
B-1210	Skt., $\frac{5}{16}$ " 12 Pt.....	B-1218	Skt., $\frac{3}{8}$ " 12 Pt.....
B-1211	Skt., $\frac{11}{32}$ " 12 Pt.....	B-1220	Skt., $\frac{5}{8}$ " 12 Pt.....
B-1212	Skt., $\frac{3}{8}$ " 12 Pt.....	B-1222	Skt., $\frac{11}{16}$ " 12 Pt.....
B-1214	Skt., $\frac{7}{16}$ " 12 Pt.....	B-1224	Skt., $\frac{3}{4}$ " 12 Pt.....



**LR-3212T 12 12-Pt. SOCKETS in MB-22 Tray**  
**LR-3212 12 12-Pt. SOCKETS without Tray**

Stock No.	Description	Stock No.	Description
B-1208	Skt., $\frac{1}{4}$ " 12 Pt.....	B-1218	Skt., $\frac{3}{8}$ " 12 Pt.....
B-1210	Skt., $\frac{5}{16}$ " 12 Pt.....	B-1220	Skt., $\frac{5}{8}$ " 12 Pt.....
B-1211	Skt., $\frac{11}{32}$ " 12 Pt.....	B-1222	Skt., $\frac{11}{16}$ " 12 Pt.....
B-1212	Skt., $\frac{3}{8}$ " 12 Pt.....	B-1224	Skt., $\frac{3}{4}$ " 12 Pt.....
B-1214	Skt., $\frac{7}{16}$ " 12 Pt.....	B-1226	Skt., $\frac{13}{16}$ " 12 Pt.....
B-1216	Skt., $\frac{1}{2}$ " 12 Pt.....	B-1228	Skt., $\frac{7}{8}$ " 12 Pt.....





41 TEETH GIVE  
82 TOOTH ACTION

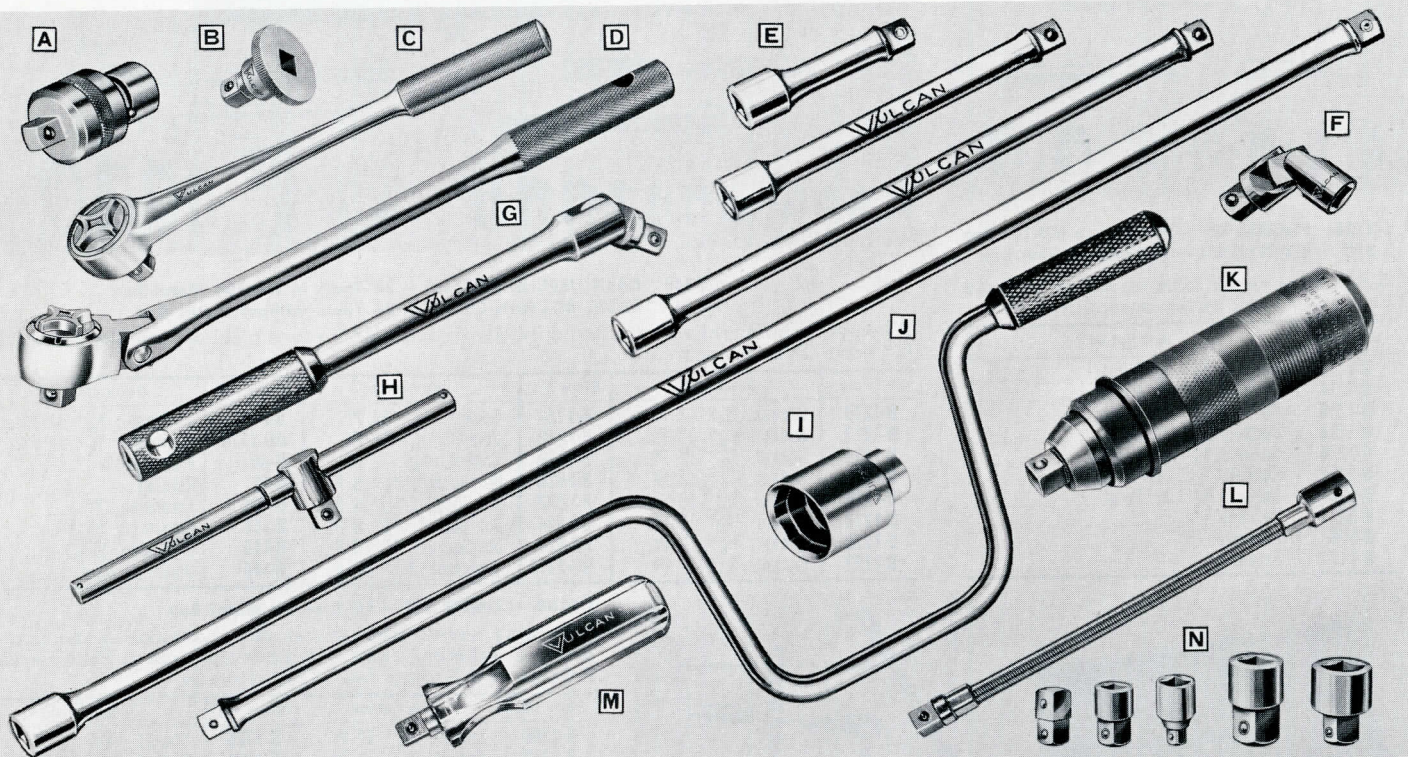
LESS THAN 4½°  
SWING OF HANDLE  
GIVES COMPLETE  
NUT ROTATION

LENGTH PROPORTIONED FOR IDEAL BALANCE

ENTIRE RATCHET 50% STRONGER  
THAN U. S. GOVERNMENT REQUIREMENTS

RUGGED CONSTRUCTION  
NO ONE PART BEARS  
BULK OF STRESS

STRESSES ARE EVENLY  
DISTRIBUTED THROUGHOUT  
ENTIRE MECHANISM



**A B-55A RATCHET ADAPTOR**

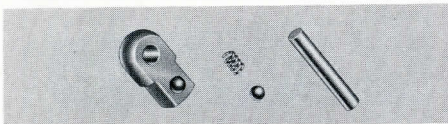
A smooth running, sturdy 3/8" drive Ratchet Adaptor that shifts quickly and easily to on and off. A particularly handy tool when used in conjunction with Torque Wrenches.

**B B-70 RATCHET SPINNER**

By placing spinner between ratchet and socket, nuts can be spun fast by hand without moving ratchet handle. Serrated edge assures firm grip. Diameter, 1 5/16".

**C B-52 REVERSIBLE RATCHET**

Concentric type 41 tooth mechanism gives 82 tooth action permitting complete rotation of nuts in only 4½° swing of the handle. Stresses are evenly distributed throughout the single-unit mechanism. No single part is overly strained. Shift lever in head reverses action instantly. Overall length, 7 5/8".



**B-40RK FLEX HANDLE REPAIR KIT**

When necessary, Flex Handle repairs may be made quick and easy. The old pin is drilled out. After assembly, pin new pin in place.

Stock No.	Description
B-40-1	Drive Tang .....
B-40-2	Spring and Ball .....
B-40-3	Hinge Pin .....

**D B-54 REVERSIBLE FLEX-HEAD RATCHET**

The same fine 82 tooth action found in the regular VULCAN 3/8" drive Ratchet. A precision tool with rugged construction, giving a new tooth bite with only 4½° handle swing.

**E B-108 EXTENSION BAR, length, 3"**

**B-110 EXTENSION BAR, length, 5 1/2"**

**B-115 EXTENSION BAR, length, 10 1/2"**

**B-124 EXTENSION BAR, length, 24"**

**F B-140 UNIVERSAL JOINT**

Readily adapts any 3/8" drive socket and driver. Spring tension holds angle.

**G B-40 FLEX HANDLE, 8 1/2" long.**

Flexible head permits use in close quarters. Knurled grip has cross hole for sliding bar and 3/8" square drive hole in end.

**H B-20A SLIDING T HANDLE**

Sliding head may be placed anywhere on the 6 1/2" bar. Tension ball holds position.

**I B-3234 SPECIAL PURPOSE SOCKET**

Special 1" and 1 1/8" hex opening in the same socket. Required for removing and replacing stop light switch and oil pressure gauge.

**J B-15 SPEEDER**

Has free action knurled revolving grip. Ideal for long reach. Overall length, 16 1/2".

**K B-6M IMPACT DRIVER**

For loosening and tightening nuts, bolts and screws. A slight twist sets driver for operation in either direction. A sharp hammer blow does the rest. Overall length 6".

**L BFE-8 FLEXIBLE EXTENSION**

Extremely useful in close quarters and hard to reach spots. Exceptionally durable flexible cable. Overall length 8".

**M B-106 SPINNER HANDLE**

Has comfortably sized plastic handle. Overall length, 4 5/8".

**N BM-150 ADAPTOR**

3/8" male square and 1/4" male square. Particularly useful with L-318B Set, on page 5.

**MB-130 ADAPTOR**

1/4" square female and 3/8" square male. Adapts 3/8" drive sockets to 1/4" drivers.

**MB-131 ADAPTOR**

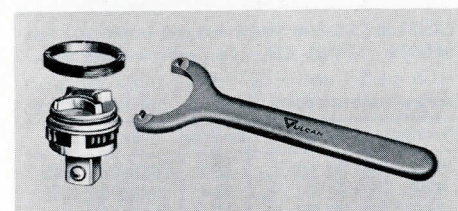
3/8" square female and 1/4" square male. Adapts 3/8" drivers to 1/4" drive sockets.

**BS-130 ADAPTOR**

3/8" square female and 1/2" square male. Adapts 3/8" drivers to 1/2" drive sockets.

**BS-131 ADAPTOR**

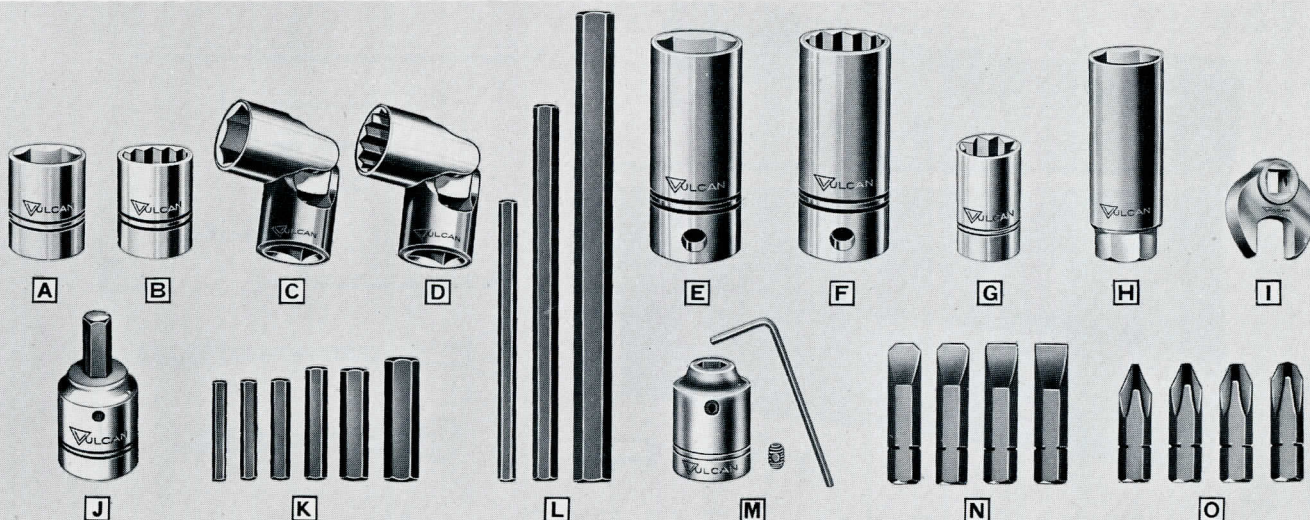
3/8" square male and 1/2" square female. Adapts 1/2" drivers to 3/8" drive sockets.



**B-52 RATCHET INDIVIDUAL REPAIR PARTS**

Stock No.	Description
B-52G	Gland .....
B-52RU	Replacement Unit .....
418-R3	Spanner Wrench for Gland .....



**A SINGLE HEX REGULAR SOCKETS****B DOUBLE HEX REGULAR SOCKETS**

Selected Alloy Steel is carefully and accurately controlled in our own Metallurgical Laboratory. The finest material and most modern heat treating facilities are combined to produce sockets of greater strength and accuracy for you. Available in hex and double hex as listed below.

Opening Size	Stock Number		Nose Diameter	Length
	6 Point	12 Point		
1/4	B-608	B-1208	3/8	15/16
5/16	B-610	B-1210	29/64	15/16
3/8	B-611	B-1211	1/2	15/16
7/16	B-612	B-1212	11/16	15/16
1/2	B-614	B-1214	39/64	15/16
5/8	B-616	B-1216	11/16	15/16
3/4	B-618	B-1218	49/64	31/32
7/8	B-620	B-1220	59/64	1
	B-622	B-1222	59/64	1 1/32
	B-624	B-1224	1	1 1/32
	B-626	B-1226	1 1/16	1 1/4
	B-628	B-1228	1 1/4	1 1/4

**C SINGLE HEX UNIVERSAL SOCKETS****D DOUBLE HEX UNIVERSAL SOCKETS**

Exceptional strength with thin wall construction makes VULCAN Universals the best for tight places. A friction spring holds the socket end in position.

Opening Size	Stock Number		Nose Diameter	Length
	6 Point	12 Point		
3/8	BU-612	BU-1212	17/32	1 37/64
7/16	BU-614	BU-1214	19/32	1 39/64
1/2	BU-616	BU-1216	11/16	1 41/64
5/8	BU-618	BU-1218	49/64	1 11/16
3/4	BU-620	BU-1220	27/32	1 3/4
7/8	BU-622	BU-1222	59/64	1 25/32
	BU-624	BU-1224	63/64	1 19/16

**E SINGLE HEX DEEP SOCKETS****F DOUBLE HEX DEEP SOCKETS**

Deep length sockets in 6 and 12 point openings properly designed and constructed to clear over protruding bolts. Accurate broaching provides maximum tool life.

Opening Size	Stock Number		Nose Diameter	Length
	6 Point	12 Point		
3/8	BD-612	BD-1212	35/64	2
5/16	BD-614	BD-1214	5/8	2
3/8	BD-616	BD-1216	11/16	2
7/16	BD-618	BD-1218	25/32	2
1/2	BD-620	BD-1220	27/32	2 1/4
5/8	BD-622	BD-1222	29/32	2 3/8
3/4	BD-624	BD-1224	1	2 1/2
7/8	BD-626	BD-1226	1 1/16	2 5/8
	BD-628	BD-1228	1 1/4	2 19/16

All VULCAN Sockets and Attachments feature true, straight, thin wall openings broached to extremely accurate tolerances for maximum strength and tool life.

**G DOUBLE SQUARE SEMI-DEEP SOCKETS**

Semi-deep socket construction provides bolt clearance without the need for extra length which restricts use in tight places.

Opening Size	Stock No.	Nose Diameter	Length
7/16	BD-814	3/4	1 1/2
1/2	BD-816	7/8	1 1/2
5/8	BD-818	31/32	1 1/2
3/4	BD-820	1 1/16	1 1/2

**LD-3804 SET OF FOUR 8 PT. SOCKETS ABOVE****G SINGLE SQUARE DRAIN PLUG SOCKET**

A compact, rugged socket with 3/32" square opening for use on 1/8" pipe plugs.

Opening Size	Stock No.	Nose Diameter	Length
3/32	B-409	1/2	1 1/16

**H SINGLE HEX SPARK PLUG SOCKET**

Rubber insert to retain and protect plug. 3/4" male hex and 3/8" female square drive.

Opening Size	Stock No.	Nose Diameter	Length
13/16	BD-626R	1 1/16	2 1/2

**BD-626R-1 RUBBER INSERT ONLY****I CROWFOOT ATTACHMENTS**

For use on oil and hydraulic lines and fittings. Particularly useful in automatic transmission work. 3/8" square drive.

Opening Size	Stock No.	Width	Thickness
3/8	BC-1700	29/32	19/64
7/16	BC-1701	29/32	19/64
1/2	BC-1001	1 1/8	2 1/4
5/8	BC-1702	1 1/8	2 1/4
3/4	BC-1703	1 11/32	2 5/8
7/8	BC-1003	1 11/32	2 5/8

**J HEX BIT SOCKETS WITH BITS**

The hex bit is securely locked in place and easily replaced by means of a "Nylok" self holding set screw.

Hex Bit Size	Stock No.	Drive End Diameter	Length
5/32	BA-5	15/16	1 7/8
3/16	BA-6	15/16	1 7/8
1/8	BA-7	15/16	1 7/8
1/4	BA-8	15/16	2
5/16	BA-10	15/16	2
3/8	BA-12	15/16	2 1/8

**K SHORT HEX BITS**

Replacement Hex Bits for the Socket and Bit assemblies described at "J". These Bits are exceptionally hard and durable for longest possible life.

Hex Bit Size	Stock No.	Fits Socket No.	Length
3/32	A-5	BA-5	1 1/8
3/16	A-6	BA-6	1 1/8
1/8	A-7	BA-7	1 1/8
1/4	A-8	BA-8	1 1/4
5/16	A-10	BA-10	1 1/4
3/8	A-12	BA-12	1 3/8

**L LONG HEX BITS**

Extra long Hex Bits that may be used with sockets described at "J". The extra length allows greater reach and service.

Hex Bit Size	Stock No.	Fits Socket No.	Length
3/16	A-6L	BA-6	3
1/4	A-8L	BA-8	4
3/8	A-12L	BA-12	5

**M 5/16" HEX BIT SOCKET ONLY**

This 3/8" square drive Socket has a 5/16" hex opening and a "Nylok" self holding set screw for securely holding bits in place. Use with Slotted Bits "N", and Phillips Bits "O".

Hex Bit Size	Stock No.	Drive End Diameter	Length
5/16	BA-10-1	15/16	1 1/4
	A-3S	"Nylok" screw only	
	HW-6	3/32 Wrench for screw	

**N 5/16" HEX SLOTTED SCREW BITS**

Finest quality alloy steel has been combined with modern heat treating methods to produce the toughest blades possible. Use with BA-10-1 described at "M".

Blade Width	Stock No.	Blade Thickness	Length
3/16	AS-1	.032	1 1/2
7/32	AS-2	.040	1 1/2
1/4	AS-3	.045	1 1/2
5/16	AS-4	.055	1 1/2

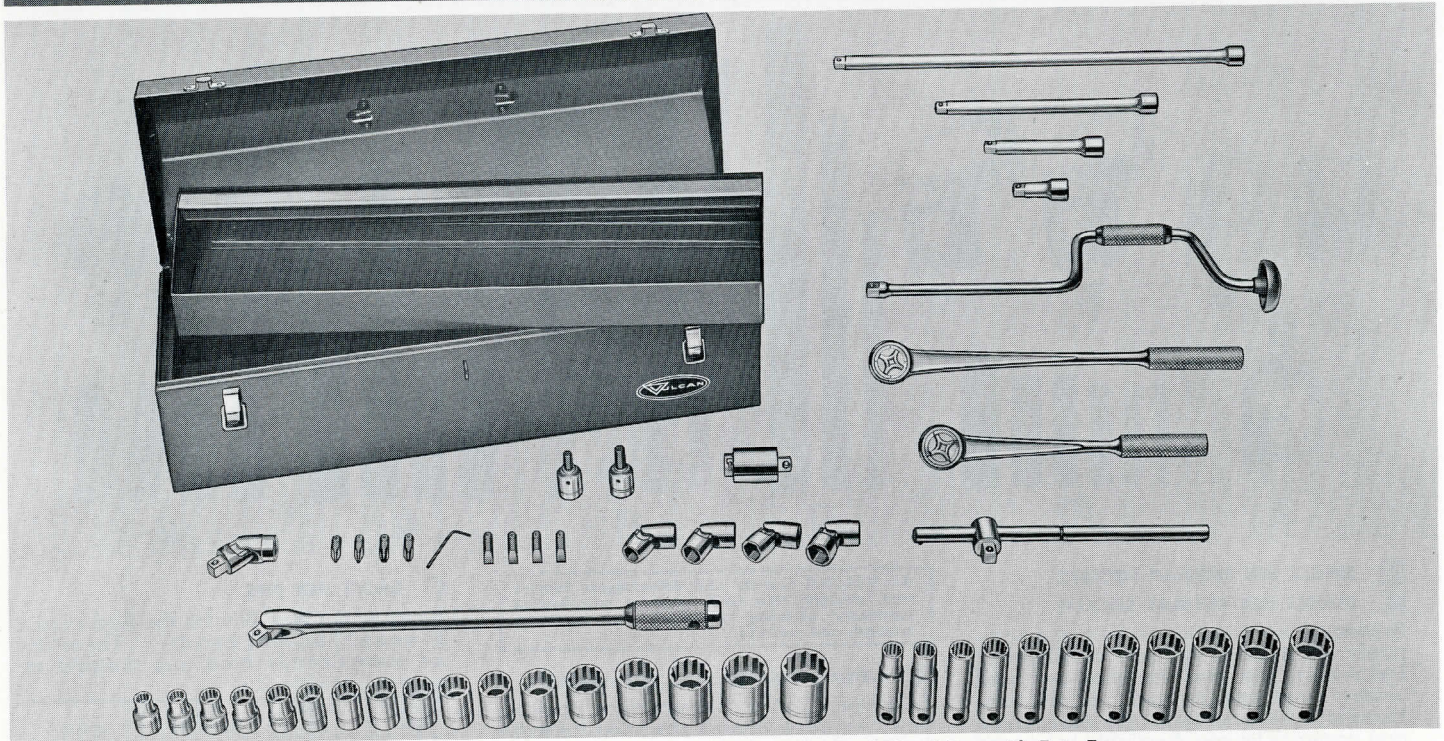
**O 5/16" HEX PHILLIPS SCREW BITS**

Accurately machined Bits for exact fits in Phillips screw heads for maximum tool life and minimum "chewing" in the screw. Use with BA-10-1 described at "M".

Bit Size	Stock No.	Fits Screws	Length
No. 1	AP-1	4, smaller	1 1/4
No. 2	AP-2	5 to 9	1 1/4
No. 3	AP-3	10 to 16	1 1/4
No. 4	AP-4	18, larger	1 1/4



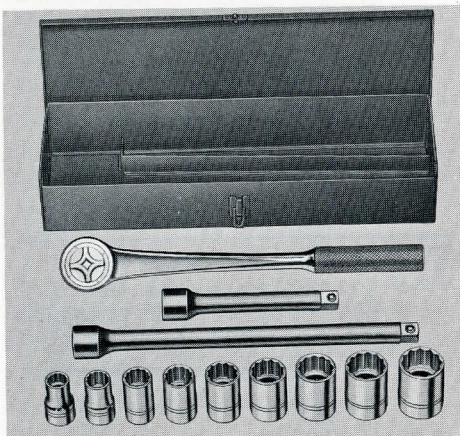
# 1/2 INCH SQUARE DRIVE SOCKET WRENCH SETS



**L-454B MASTER MECHANICS SET — 54 Tools in MB-6 Hip Roof Metal Box with Tote Tray**  
**L-454 MASTER MECHANICS SET — 54 Tools without Metal Box**

A fine set of 1/2" drive tools with turning capacity to 1 1/4" hex. Features a complete line of sockets, universals, handles and attachments.

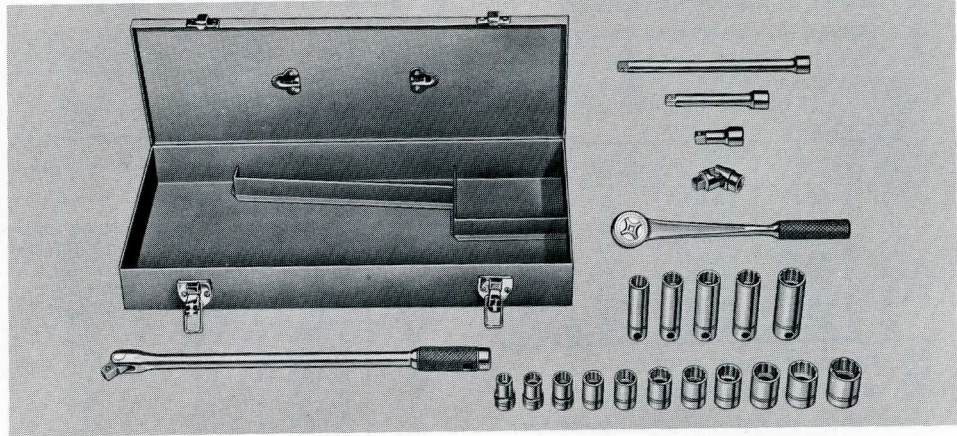
Stock No.	Description	Stock No.	Description	Stock No.	Description	Stock No.	Description	Stock No.	Description
ST-1212	Socket, 3/8" 12 Point	ST-1230	Socket, 1 1/8" 12 Point	SD-1226	Dp. Skt., 1 1/8" 12 Point	SA-12	Hex Bit Socket, 3/8"	S-20A	Sliding T Handle
ST-1214	Socket, 7/16" 12 Point	ST-1232	Socket, 1" 12 Point	SD-1228	Dp. Skt., 7/8" 12 Point	AS-1	5/16" Hex Slotted Screw Bit	S-41	Flex Handle
ST-1216	Socket, 1/2" 12 Point	ST-1234	Socket, 1 1/16" 12 Point	SD-1230	Dp. Skt., 1 1/16" 12 Point	AS-2	3/16" Hex Slotted Screw Bit	S-52	Ratchet, 11 1/4"
ST-1218	Socket, 9/16" 12 Point	ST-1236	Socket, 1 1/8" 12 Point	SD-1232	Dp. Skt., 1" 12 Point	AS-3	5/16" Hex Slotted Screw Bit	S-53	Ratchet, 15"
ST-1219	Socket, 5/8" 12 Point	ST-1238	Socket, 1 3/8" 12 Point	SD-1234	Dp. Skt., 1 1/8" 12 Point	AS-4	5/16" Hex Slotted Screw Bit	S-55	Ratchet Adaptor
ST-1220	Socket, 5/8" 12 Point	ST-1240	Socket, 1 1/4" 12 Point	SD-1236	Dp. Skt., 1 1/8" 12 Point	AP-1	5/16" Hex Phillips Bit, #1	S-102P	Extension, 2 1/2"
ST-1222	Socket, 1 1/16" 12 Point	SD-1216	Dp. Skt., 1 1/2" 12 Point	SU-618	Universal, 5/16" 6 Point	AP-2	5/16" Hex Phillips Bit, #2	S-110P	Extension, 5 1/2"
ST-1224	Socket, 3/4" 12 Point	SD-1218	Dp. Skt., 3/4" 12 Point	SU-620	Universal, 3/8" 6 Point	AP-3	5/16" Hex Phillips Bit, #3	S-115P	Extension, 10 1/2"
ST-1225	Socket, 25/32" 12 Point	SD-1220	Dp. Skt., 5/8" 12 Point	SU-622	Universal, 1 1/16" 6 Point	AP-4	5/16" Hex Phillips Bit, #4	S-121P	Extension, 20"
ST-1226	Socket, 1 1/16" 12 Point	SD-1222	Dp. Skt., 1 1/16" 12 Point	SU-624	Universal, 3/4" 6 Point	HW-6	Set Screw Wrench	S-140	Universal Joint
ST-1228	Socket, 7/8" 12 Point	SD-1224	Dp. Skt., 3/4" 12 Point	SA-10	Hex Bit Socket, 5/16"	S-15	Speeder		



**L-412B STARTER SET—12 Tools in MB-106 Box**  
**L-412 STARTER SET—12 Tools without Box**

Sockets to 1" plus ratchet and extensions.

Stock No.	Description	Stock No.	Description
ST-1216	Skt., 1/2" 12 Pt.	ST-1228	Skt., 7/8" 12 Pt.
ST-1218	Skt., 9/16" 12 Pt.	ST-1230	Skt., 1 1/16" 12 Pt.
ST-1220	Skt., 5/8" 12 Pt.	ST-1232	Skt., 1" 12 Pt.
ST-1222	Skt., 1 1/16" 12 Pt.	S-52	Ratchet, 11 1/4"
ST-1224	Skt., 3/4" 12 Pt.	S-110P	Extension, 5 1/2"
ST-1226	Skt., 1 1/16" 12 Pt.	S-115P	Extension, 10 1/2"

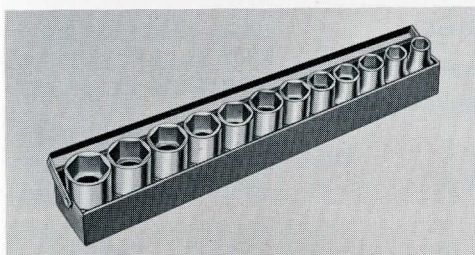


**L-422B BASIC MECHANICS SET — 22 Tools in MB-108 Metal Box**  
**L-422 BASIC MECHANICS SET — 22 Tools without Metal Box**

A fine set of regular and deep length sockets with popular handles and attachments.

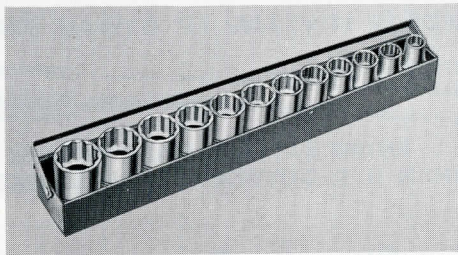
Stock No.	Description	Stock No.	Description	Stock No.	Description
ST-1216	Socket, 1/2" 12 Pt.	ST-1228	Socket, 7/8" 12 Pt.	SD-1228	Deep Socket, 7/8" 12 Pt.
ST-1218	Socket, 9/16" 12 Pt.	ST-1230	Socket, 1 1/16" 12 Pt.	S-41	Flex Handle
ST-1219	Socket, 1 1/32" 12 Pt.	ST-1232	Socket, 1" 12 Pt.	S-52	Ratchet, 11 1/4"
ST-1220	Socket, 5/8" 12 Pt.	SD-1220	Deep Socket, 5/8" 12 Pt.	S-102P	Extension, 2 1/2"
ST-1222	Socket, 1 1/16" 12 Pt.	SD-1222	Deep Socket, 1 1/16" 12 Pt.	S-110P	Extension, 5 1/2"
ST-1224	Socket, 3/4" 12 Pt.	SD-1224	Deep Socket, 3/4" 12 Pt.	S-115P	Extension, 10 1/2"
ST-1225	Socket, 25/32" 12 Pt.	SD-1226	Deep Socket, 1 1/16" 12 Pt.	S-140	Universal Joint
ST-1226	Socket, 1 1/16" 12 Pt.				





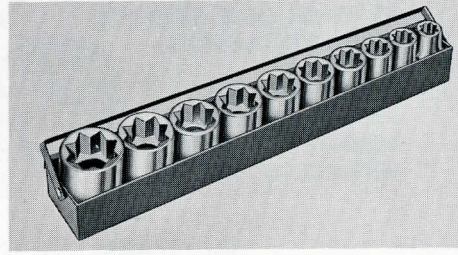
**LR-4612T 12 Hex SOCKETS in MB-32 Tray**  
**LR-4612 12 Hex SOCKETS without Tray**  
 1/2" drive 6-point openings. 3/16" through 1".

Stock No.	Description	Stock No.	Description
ST-614	Skt., 3/16" 6 Pt.	ST-624	Skt., 3/4" 6 Pt.
ST-616	Skt., 1/2" 6 Pt.	ST-625	Skt., 25/32" 6 Pt.
ST-618	Skt., 5/8" 6 Pt.	ST-626	Skt., 13/16" 6 Pt.
ST-619	Skt., 15/32" 6 Pt.	ST-628	Skt., 7/8" 6 Pt.
ST-620	Skt., 5/8" 6 Pt.	ST-630	Skt., 15/16" 6 Pt.
ST-622	Skt., 1 1/16" 6 Pt.	ST-632	Skt., 1" 6 Pt.



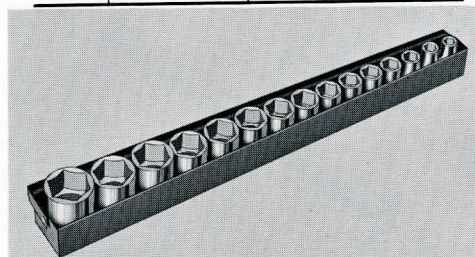
**LR-4212T 12 12-Pt. SOCKETS in MB-32 Tray**  
**LR-4212 12 12-Pt. SOCKETS without Tray**  
 1/2" drive double hex openings through 1".

Stock No.	Description	Stock No.	Description
ST-1214	Skt., 3/16" 12 Pt.	ST-1224	Skt., 3/4" 12 Pt.
ST-1216	Skt., 1/2" 12 Pt.	ST-1225	Skt., 25/32" 12 Pt.
ST-1218	Skt., 5/8" 12 Pt.	ST-1226	Skt., 13/16" 12 Pt.
ST-1219	Skt., 15/32" 12 Pt.	ST-1228	Skt., 7/8" 12 Pt.
ST-1220	Skt., 5/8" 12 Pt.	ST-1230	Skt., 15/16" 12 Pt.
ST-1222	Skt., 1 1/16" 12 Pt.	ST-1232	Skt., 1" 12 Pt.



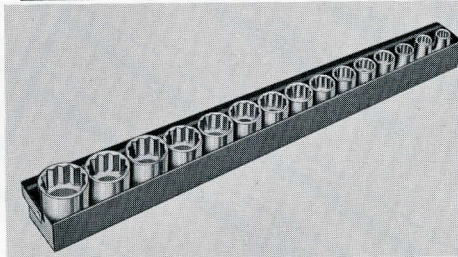
**LR-4810T 10 Dbl. Sq. SOCKETS in MB-33 Tray**  
**LR-4810 10 Dbl. Sq. SOCKETS without Tray**  
 1/2" drive. Eight-point openings 3/8" thru 1".

Stock No.	Description	Stock No.	Description
ST-812	Skt., 3/8" 8 Pt.	ST-822	Skt., 1 1/16" 8 Pt.
ST-814	Skt., 7/16" 8 Pt.	ST-824	Skt., 3/4" 8 Pt.
ST-816	Skt., 1/2" 8 Pt.	ST-826	Skt., 13/16" 8 Pt.
ST-818	Skt., 5/8" 8 Pt.	ST-828	Skt., 7/8" 8 Pt.
ST-820	Skt., 5/8" 8 Pt.	ST-832	Skt., 1" 8 Pt.



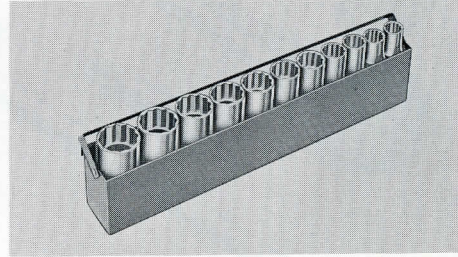
**LR-4615T 15 Hex SOCKETS in MB-30 Tray**  
**LR-4615 15 Hex SOCKETS without Tray**  
 3/8" through 1 1/4" single hexagon openings.

Stock No.	Description	Stock No.	Description
ST-612	Skt., 3/8" 6 Pt.	ST-626	Skt., 13/16" 6 Pt.
ST-614	Skt., 7/16" 6 Pt.	ST-628	Skt., 7/8" 6 Pt.
ST-616	Skt., 1/2" 6 Pt.	ST-630	Skt., 15/16" 6 Pt.
ST-618	Skt., 5/8" 6 Pt.	ST-632	Skt., 1" 6 Pt.
ST-619	Skt., 15/32" 6 Pt.	ST-634	Skt., 1 1/16" 6 Pt.
ST-620	Skt., 5/8" 6 Pt.	ST-636	Skt., 1 1/8" 6 Pt.
ST-622	Skt., 1 1/16" 6 Pt.	ST-640	Skt., 1 1/4" 6 Pt.
ST-624	Skt., 3/4" 6 Pt.		



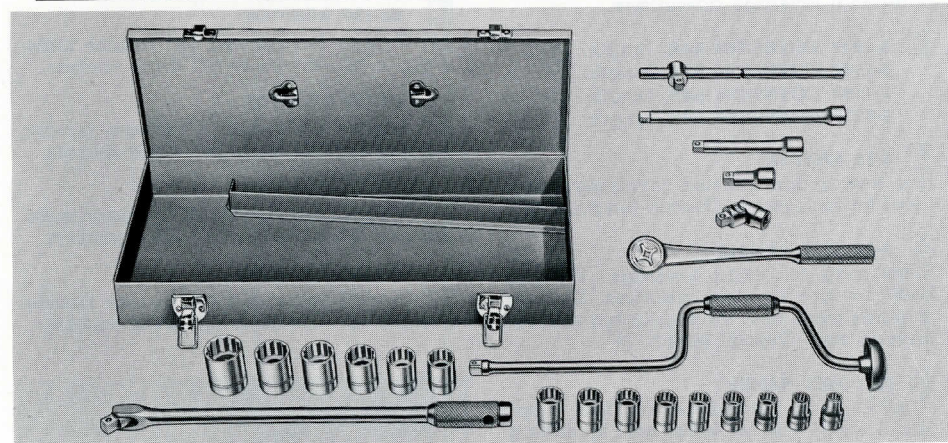
**LR-4215T 15 12-Pt. SOCKETS in MB-30 Tray**  
**LR-4215 15 12-Pt. SOCKETS without Tray**  
 3/8" through 1 1/4" double hexagon openings.

Stock No.	Description	Stock No.	Description
ST-1212	Skt., 3/8" 12 Pt.	ST-1226	Skt., 13/16" 12 Pt.
ST-1214	Skt., 7/16" 12 Pt.	ST-1228	Skt., 7/8" 12 Pt.
ST-1216	Skt., 1/2" 12 Pt.	ST-1230	Skt., 15/16" 12 Pt.
ST-1218	Skt., 5/8" 12 Pt.	ST-1232	Skt., 1" 12 Pt.
ST-1219	Skt., 15/32" 12 Pt.	ST-1234	Skt., 1 1/16" 12 Pt.
ST-1220	Skt., 5/8" 12 Pt.	ST-1236	Skt., 1 1/8" 12 Pt.
ST-1222	Skt., 1 1/16" 12 Pt.	ST-1240	Skt., 1 1/4" 12 Pt.
ST-1224	Skt., 3/4" 12 Pt.		



**LD-4211T 11 12-Pt. Dp. SOCKETS in MB-31 Tray**  
**LD-4211 11 12-Pt. Dp. SOCKETS without Tray**  
 Deep length sockets through 1 1/8" hexagon.

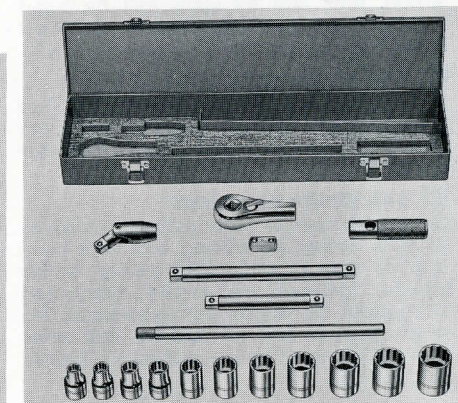
Stock No.	Description	Stock No.	Description
SD-1216	Dp. Skt., 1/2" 12 Pt.	SD-1228	Dp. Skt., 7/8" 12 Pt.
SD-1218	Dp. Skt., 5/8" 12 Pt.	SD-1230	Dp. Skt., 15/16" 12 Pt.
SD-1220	Dp. Skt., 5/8" 12 Pt.	SD-1232	Dp. Skt., 1" 12 Pt.
SD-1222	Dp. Skt., 1 1/16" 12 Pt.	SD-1234	Dp. Skt., 1 1/8" 12 Pt.
SD-1224	Dp. Skt., 3/4" 12 Pt.	SD-1236	Dp. Skt., 1 1/8" 12 Pt.
SD-1226	Dp. Skt., 13/16" 12 Pt.		



**L-423B STANDARD SET - 23 Tools in MB-107 Metal Box**  
**L-423 STANDARD SET - 23 Tools without Metal Box**

The most needed tools in 1/2" drive. 12-point sockets through 1 1/4" plus attachments.

Stock No.	Description	Stock No.	Description	Stock No.	Description
ST-1214	Socket, 7/16" 12 Pt.	ST-1226	Socket, 13/16" 12 Pt.	S-20A	Sliding T Handle
ST-1216	Socket, 1/2" 12 Pt.	ST-1228	Socket, 7/8" 12 Pt.	S-41	Flex Handle
ST-1218	Socket, 5/8" 12 Pt.	ST-1230	Socket, 15/16" 12 Pt.	S-52	Ratchet, 11 1/4"
ST-1219	Socket, 15/32" 12 Pt.	ST-1232	Socket, 1" 12 Pt.	S-102P	Extension, 2 1/2"
ST-1220	Socket, 5/8" 12 Pt.	ST-1234	Socket, 1 1/16" 12 Pt.	S-110P	Extension, 5 1/2"
ST-1222	Socket, 1 1/16" 12 Pt.	ST-1236	Socket, 1 1/8" 12 Pt.	S-115P	Extension, 10 1/2"
ST-1224	Socket, 3/4" 12 Pt.	ST-1240	Socket, 1 1/4" 12 Pt.	S-140	Universal Joint
ST-1225	Socket, 25/32" 12 Pt.	S-15	Speeder		



**L-418B "COMBO" SOCKET WRENCH SET**  
**18 Tools in Metal Box**

With 7 drive parts and 11 sockets this remarkably versatile set makes hundreds of drive combinations. See illustr. on Page 5.

Stock No.	Description	Stock No.	Description
ST-1212	Skt., 3/8" 12 Pt.	ST-1230	Skt., 15/16" 12 Pt.
ST-1214	Skt., 7/16" 12 Pt.	ST-1232	Skt., 1" 12 Pt.
ST-1216	Skt., 1/2" 12 Pt.	ST-20	Tee Bar
ST-1218	Skt., 5/8" 12 Pt.	ST-40	Flex Head
ST-1220	Skt., 5/8" 12 Pt.	ST-50	Ratchet Head
ST-1222	Skt., 1 1/16" 12 Pt.	ST-70	Grip
ST-1224	Skt., 3/4" 12 Pt.	ST-105	Extension, 5"
ST-1226	Skt., 13/16" 12 Pt.	ST-108	Extension, 8"
ST-1228	Skt., 7/8" 12 Pt.	ST-150	Plug Connector





41 TEETH GIVE SMOOTH  
82 TOOTH ACTION

LESS THAN  $4\frac{1}{2}^\circ$   
SWING OF HANDLE  
PERMITS COMPLETE  
NUT ROTATION

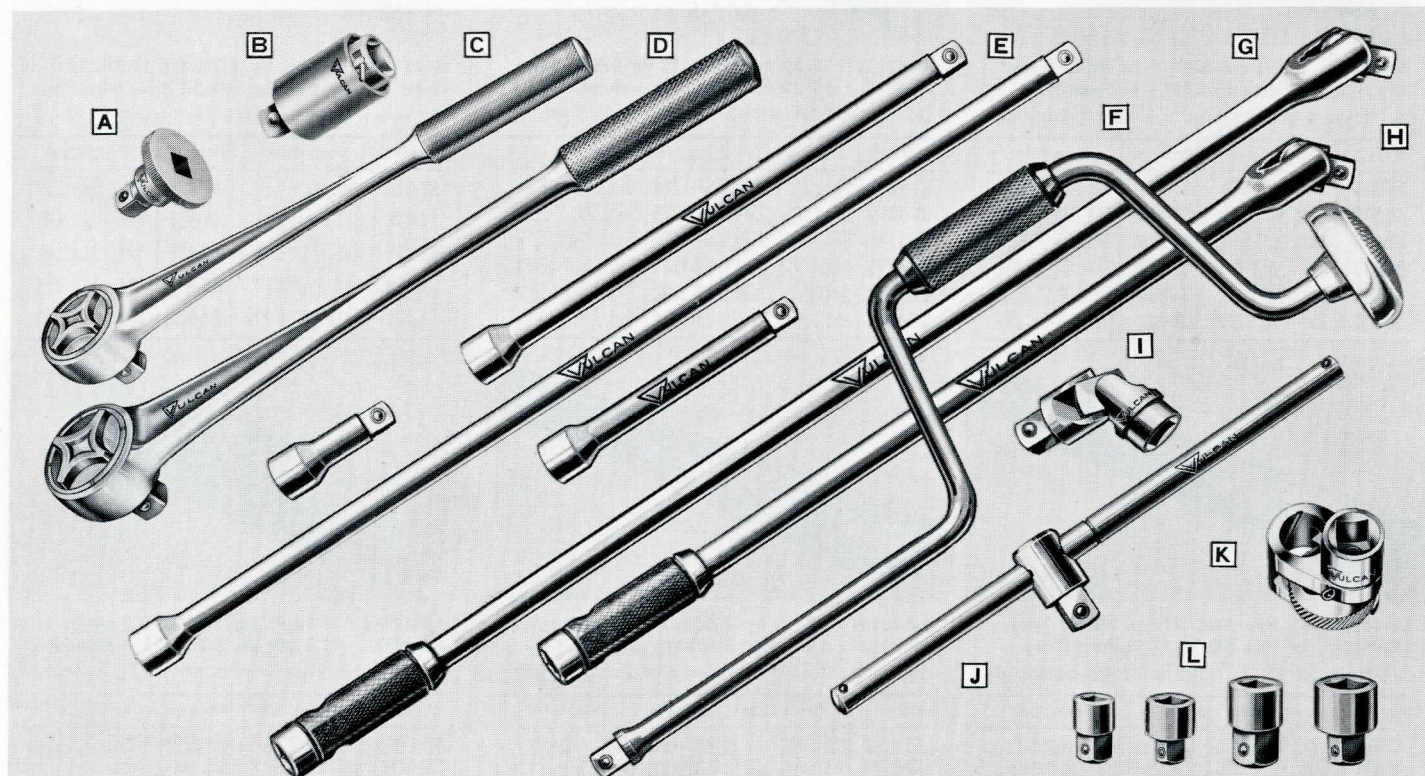
MADE IN  $11\frac{1}{4}"$  AND  $15"$  OVERALL LENGTHS



ENTIRE RATCHET 50% STRONGER  
THAN U. S. GOVERNMENT REQUIREMENTS

SAFE, KNURLED GRIP  
AND BALANCED FEEL  
FOR TRUE COMFORT

STRESSES ARE EVENLY  
DISTRIBUTED THROUGHOUT  
ENTIRE MECHANISM



**A S-70 RATCHET SPINNER**

By placing spinner between ratchet and socket, nuts can be spun fast by hand without moving ratchet handle. Serrated edge assures firm grip. Diameter,  $1\frac{3}{4}"$ .

**B S-55 REVERSIBLE RATCHET ADAPTER**

Adapts to all  $\frac{1}{2}"$  drivers and handles. Shift lever reverses action instantly. Compact for tight places, only  $1\frac{1}{4}"$  outside diameter and  $2\frac{5}{16}"$  long.

**C S-52 REVERSIBLE RATCHET**

Concentric type 41 tooth mechanism gives 82 tooth action permitting complete rotation of nuts in only  $4\frac{1}{2}^\circ$  swing of the handle. Stresses are evenly distributed throughout the single-unit mechanism. No single part is overly strained. Shift lever in head reverses action instantly. Overall length,  $11\frac{1}{4}"$ .

**D S-53 REVERSIBLE RATCHET**

Same smooth 82 tooth action as S-52 Ratchet. Completely rotates nuts in less than  $4\frac{1}{2}^\circ$  swing of handle.  $15"$  length gives additional leverage advantage.

**E S-102P EXTENSION BAR**, length,  $2\frac{1}{2}"$ .

**S-110P EXTENSION BAR**, length,  $5\frac{1}{2}"$ .

**S-115P EXTENSION BAR**, length,  $10\frac{1}{2}"$ .

**S-121P EXTENSION BAR**, length,  $21"$ .

**F S-15 SPEEDER**

Has free action knurled revolving grips. Ideal for long reach. Overall length,  $17\frac{1}{2}"$ .

**G S-44 FLEX HANDLE**

Extra long for extra leverage. Flexible head for use in close quarters. Knurled grip has cross hole for sliding bar and  $\frac{1}{2}"$  drive in end. Overall length,  $24"$ .

**H S-41 FLEX HANDLE**

Flexible head permits use in close quarters. Knurled grip has cross hole for sliding bar and  $\frac{1}{2}"$  square drive hole in end. Overall length,  $17\frac{1}{4}"$ .

**I S-140 UNIVERSAL JOINT**

Readily adapts any  $\frac{1}{2}"$  drive socket and driver. Spring tension holds angle.

**J S-20A SLIDING T HANDLE**

Sliding head adaptor can be placed anywhere on the bar. Tension ball holds position. Overall length,  $11"$ .

**K S-60B STUD REMOVER**

Exerts strong gripping action with minimum effort. Stud capacity  $\frac{1}{4}"$  to  $\frac{3}{4}"$ .

**L BS-130 ADAPTOR**

$\frac{3}{8}"$  Square female and  $\frac{1}{2}"$  square male. Adapts  $\frac{3}{8}"$  drivers to  $\frac{1}{2}"$  drive sockets.

**BS-131 ADAPTOR**

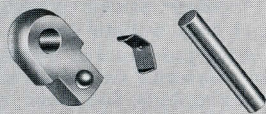
$\frac{3}{8}"$  Square male and  $\frac{1}{2}"$  square female. Adapts  $\frac{1}{2}"$  drivers to  $\frac{3}{8}"$  drive sockets.

**SH-130 ADAPTOR**

$\frac{1}{2}"$  Square female and  $\frac{3}{4}"$  square male. Adapts  $\frac{1}{2}"$  drivers to  $\frac{3}{4}"$  drive sockets.

**SH-131 ADAPTOR**

$\frac{1}{2}"$  Square male and  $\frac{3}{4}"$  square female. Adapts  $\frac{3}{4}"$  drivers to  $\frac{1}{2}"$  drive sockets.



**S-41RK FLEX HANDLE REPAIR KIT**

Fastest repair can be accomplished by first drilling, if necessary, then drilling out old hinge pin. Pein new pin in place.

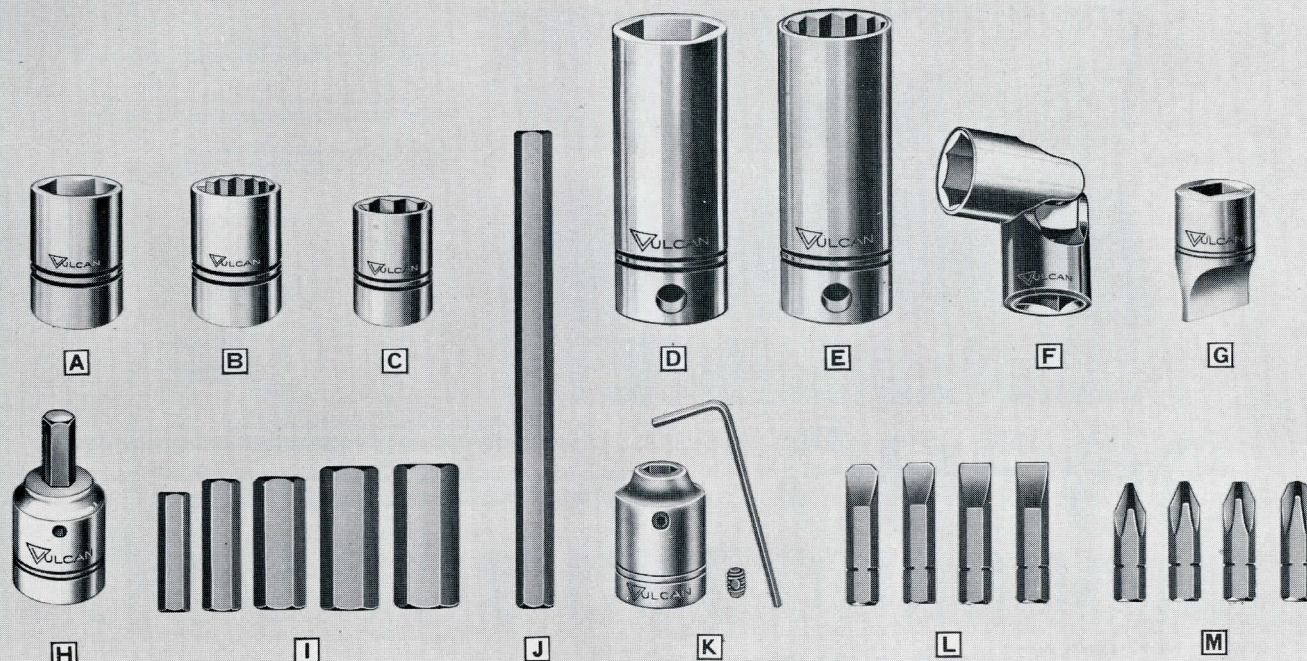
Stock No.	Description
S-41-1	Drive Tang.....
S-41-2	Spring.....
S-41-3	Hinge Pin.....



**S-52 and S-53 RATCHET REPAIR PARTS**

Stock No.	Description
S-52G	Gland.....
S-52RU	Replacement Unit.....
420-R2	Spanner Wrench for Gland.....





### ALL VULCAN SOCKETS HAVE THESE OUTSTANDING FEATURES

- Selected Alloy Steel.
- Chrome Plated over Nickel.
- True, straight thin walls.
- No rounded noses to obscure thick walls.
- Double Ring grooves for firm grip.
- Ball Detents in all four sides of square drive ends.
- Opening Depths proportioned for proper nut seating.

#### A SINGLE HEX REGULAR SOCKETS

#### B DOUBLE HEX REGULAR SOCKETS

Selected Alloy Steel, our modern Heat Treating facilities and exacting tolerances make these Sockets the best available.

Opening Size	Stock Number		Nose Diameter	Length
	6 Point	12 Point		
3/8	ST-612	ST-1212	9/16	1 1/16
7/16	ST-614	ST-1214	5/8	1 1/2
1/2	ST-616	ST-1216	45/64	1 1/2
9/16	ST-618	ST-1218	25/32	1 1/2
19/32	ST-619	ST-1219	53/64	1 1/2
5/8	ST-620	ST-1220	7/8	1 1/2
11/16	ST-622	ST-1222	61/64	1 1/2
3/4	ST-624	ST-1224	1 1/64	1 1/2
25/32	ST-625	ST-1225	13/16	1 1/2
13/16	ST-626	ST-1226	1 1/32	1 1/2
7/8	ST-628	ST-1228	1 1/16	1 1/2
15/16	ST-630	ST-1230	1 1/8	1 1/2
1	ST-632	ST-1232	1 1/4	1 1/2
1 1/16	ST-634	ST-1234	1 1/2	1 1/2
1 1/8	ST-636	ST-1236	1 3/4	1 1/2
1 1/4	ST-640	ST-1240	1 7/8	1 1/2

#### C DOUBLE SQUARE SOCKETS

Eight point opening Sockets properly designed and manufactured to give you a better fit and longer Socket life.

Opening Size	Stock No.	Nose Diameter	Length
3/8	ST-812	47/64	1 1/2
7/16	ST-814	53/64	1 1/2
1/2	ST-816	15/16	1 1/2
9/16	ST-818	13/16	1 1/2
5/8	ST-820	1 1/8	1 1/2
11/16	ST-822	1 1/32	1 1/2
3/4	ST-824	1 1/16	1 1/2
25/32	ST-826	1 1/8	1 1/2
13/16	ST-828	1 1/4	1 1/2
7/8	ST-832	1 1/2	1 1/2

#### D SINGLE HEX DEEP SOCKET

#### E DOUBLE HEX DEEP SOCKET

Deep Sockets with the proper clearance and wall thickness to reach into cavities and clear protruding bolts. The SD-626 is especially designed for spark plugs.

Opening Size	Stock Number		Nose Diameter	Length
	6 Point	12 Point		
1/2	SD-1216	SD-1216	47/64	3 1/4
9/16	SD-1218	SD-1218	51/64	3 1/4
5/8	SD-1220	SD-1220	7/8	3 1/4
11/16	SD-1222	SD-1222	15/16	3 1/4
3/4	SD-1224	SD-1224	1 1/32	3 1/4
13/16	SD-1226	SD-1226	1 1/6	3 1/4
7/8	SD-1228	SD-1228	1 1/8	3 1/4
15/16	SD-1230	SD-1230	1 1/4	3 1/4
1	SD-1232	SD-1232	1 1/2	3 1/4
1 1/16	SD-1234	SD-1234	1 13/32	3 1/4
1 1/8	SD-1236	SD-1236	1 15/32	3 1/4

#### F SINGLE HEX UNIVERSAL SOCKETS

Six-point openings, 1/2" square drive. Tension spring holds socket end in place.

Opening Size	Stock No.	Nose Diameter	Length
9/16	SU-618	25/32	2 1/4
5/8	SU-620	7/8	2 3/4
11/16	SU-622	61/64	2 3/8
3/4	SU-624	1 1/64	2 25/64

#### LU-4604 SET OF FOUR UNIVERSALS ABOVE

#### G DRAG LINK SOCKET BITS

Strong, tough blades for drag link adjustment. Heat-treated alloy steel. 1/2" drive.

Blade Thickness	Stock No.	Blade Width	Length
7/64	SB-30	15/16	1 1/2
3/32	SB-40	1 1/4	1 1/32

#### H HEX BIT SOCKET WITH BITS

The hex bit is securely locked in place and easily replaced by means of a "Nylok" self holding set screw.

Hex Bit Size	Stock No.	Drive End Diameters	Length
3/16	SA-10	13/16	2 1/4
7/16	SA-12	13/16	2 3/8
1/2	SA-16	13/16	2 3/8
9/16	SA-18	13/16	2 1/2
5/8	SA-20	13/16	2 1/2

#### I SHORT HEX BITS

Replacement Hex Bits for the Socket and Bit assemblies described at "H". Selected Alloy Steel for long life.

Hex Bit Size	Stock No.	Fits Socket No.	Length
3/16	A-10	SA-10	1 1/4
3/8	A-12	SA-12	1 3/8
1/2	A-16	SA-16	1 3/8
9/16	A-18	SA-18	1 1/2
5/8	A-20	SA-20	1 1/2

#### J LONG HEX BIT

A special long 3/8" Hex Bit that may be reversed for longer life. Fits 3/4" set screws and 1/2" and 5/8" Cap Screws in hollow hex.

Hex Bit Size	Stock No.	Fits Socket No.	Length
3/8	A-12L	SA-12	5

#### K HEX BIT SOCKET ONLY

This 1/2" square drive Socket has a 5/16" hex opening and a "Nylok" self holding setscrew for securely holding bits in place. Use with Slotted Bits "L", and Phillips Bits "M".

Hex Bit Size	Stock No.	Drive End Diameter	Length
5/16	SA-10-1	13/16	1 1/2
	A-3S	"Nylok" screw only	
	HW-6	3/32 Wrench for screw	

#### L 5/16" HEX SLOTTED SCREW BITS

Tough, durable blades from fine Alloy Steel, modern heat treating and accurate machining. Use with SA-10-1 described at "K".

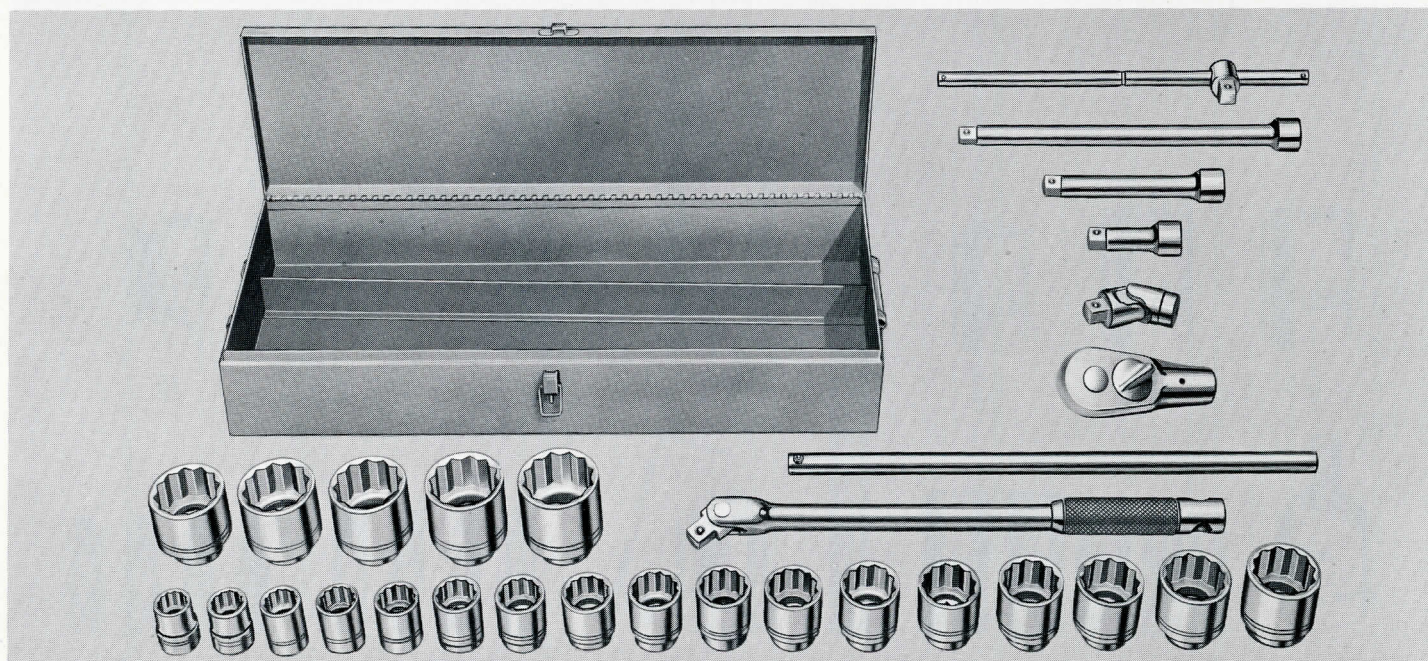
Blade Width	Stock No.	Blade Thickness	Length
3/16	AS-1	.032	1 1/2
3/32	AS-2	.040	1 1/2
1/8	AS-3	.045	1 1/2
5/16	AS-4	.055	1 1/2

#### M 5/16" HEX PHILLIPS SCREW BITS

Bits are machined to precise tolerances and specifications for exact fits in Phillips Screw heads. Use with SA-10-1 described at "K".

Bit Size	Stock No.	Fits Screws	Length
No. 1	AP-1	4, smaller	1 1/4
No. 2	AP-2	5 to 9	1 1/4
No. 3	AP-3	10 to 16	1 1/4
No. 4	AP-4	18, larger	1 1/4



**L-630B MASTER MECHANICS SET — 30 Tools in MB-110 Metal Box****L-630 MASTER MECHANICS SET — 30 Tools without Metal Box**

A complete heavy duty set with nut turning capacity from  $\frac{3}{8}$ " through  $2\frac{1}{4}$ ". The set for mechanics doing all types of heavy repair.

Stock No.	Description	Stock No.	Description	Stock No.	Description	Stock No.	Description	Stock No.	Description
H-1228	Socket, $\frac{3}{8}$ " 12 Pt.	H-1240	Socket, $1\frac{1}{4}$ " 12 Pt.	H-1252	Socket, $1\frac{5}{8}$ " 12 Pt.	H-1266	Socket, $2\frac{1}{16}$ " 12 Pt.	H-51A	Ratchet Head
H-1230	Socket, $\frac{1}{2}$ " 12 Pt.	H-1242	Socket, $1\frac{3}{16}$ " 12 Pt.	H-1254	Socket, $1\frac{1}{8}$ " 12 Pt.	H-1268	Socket, $2\frac{1}{8}$ " 12 Pt.	H-A2	Bar Handle
H-1232	Socket, 1" 12 Pt.	H-1244	Socket, $1\frac{3}{8}$ " 12 Pt.	H-1256	Socket, $1\frac{3}{4}$ " 12 Pt.	H-1270	Socket, $2\frac{3}{16}$ " 12 Pt.	H-104	Extension, 4"
H-1234	Socket, $1\frac{1}{16}$ " 12 Pt.	H-1246	Socket, $1\frac{7}{16}$ " 12 Pt.	H-1258	Socket, $1\frac{7}{8}$ " 12 Pt.	H-1272	Socket, $2\frac{1}{4}$ " 12 Pt.	H-110	Extension, 8"
H-1236	Socket, $1\frac{1}{8}$ " 12 Pt.	H-1248	Socket, $1\frac{1}{2}$ " 12 Pt.	H-1260	Socket, $1\frac{7}{8}$ " 12 Pt.	H-20A	Sliding T Handle	H-115	Extension, $15\frac{1}{2}$ "
H-1238	Socket, $1\frac{3}{16}$ " 12 Pt.	H-1250	Socket, $1\frac{1}{8}$ " 12 Pt.	H-1264	Socket, 2" 12 Pt.	H-41	Flex Handle	H-140	Universal Joint

**A H-51A REVERSIBLE RATCHET HEAD**

Ratchet has 24 gear teeth instead of usual 16. Shift lever reverses action instantly. This is a real rugged tool designed for mastering the tough jobs. Length  $6\frac{1}{4}$ ".

**B H-A1 KNURLED HANDLE FOR H-51A**

This 20" handle has comfortable, safe, knurled grip on end.

**C H-A2 PLAIN HANDLE FOR H-51A**

Designed to perform efficiently with H-51A at moderate cost. Length 20".

**D H-110 EXTENSION BAR, length, 8".****E H-104 EXTENSION BAR, length, 4".****F H-41 FLEX HANDLE**

Flexible head maintains angle selected. Knurled grip. Overall length, 20".

**G H-115 EXTENSION BAR, length,  $15\frac{1}{2}$ ".****H H-20A SLIDING T HANDLE**

Sliding head adaptor has tension ball and spring for position. Overall length  $17\frac{1}{2}$ ".

**I H-140 UNIVERSAL JOINT**

Readily adapts to any  $\frac{3}{4}$ " drive socket and driver. Spring tension holds angle.

**J SH-130 ADAPTOR**

$\frac{3}{4}$ " square male and  $\frac{1}{2}$ " square female. Adapts  $\frac{3}{4}$ " drive sockets to  $\frac{1}{2}$ " drivers.

**SH-131 ADAPTOR**

$\frac{3}{4}$ " square female and  $\frac{1}{2}$ " square male. Adapts  $\frac{3}{4}$ " drivers to  $\frac{1}{2}$ " drive sockets.

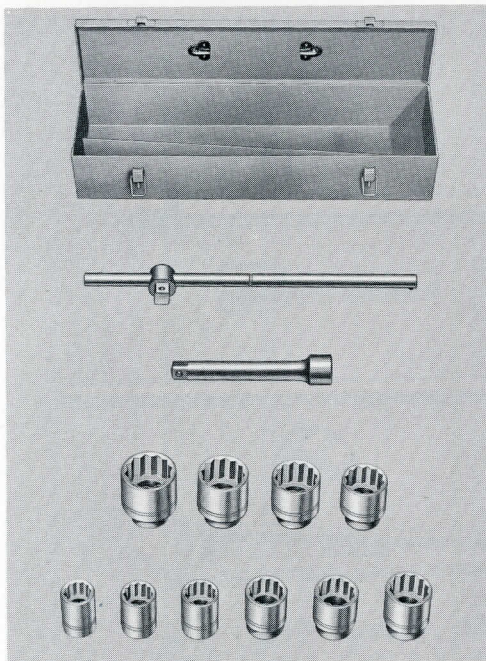
**HNX-130 ADAPTOR**

$\frac{3}{4}$ " square female and 1" square male. Adapts  $\frac{3}{4}$ " drivers to 1" drive sockets.

**HNX-131 ADAPTOR**

$\frac{3}{4}$ " square male and 1" square female. Adapts 1" drivers to  $\frac{3}{4}$ " drive sockets.

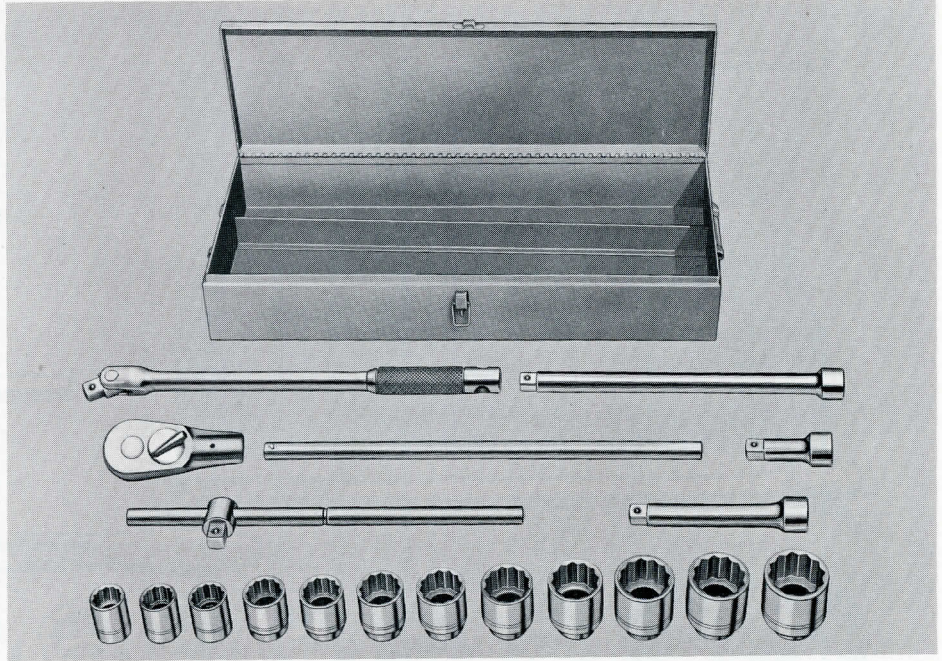




**L-612B BASIC SET — 12 Tools in MB-109 Box**  
**L-612 BASIC SET — 12 Tools without Box**

The essential tools for most large jobs.

Stock No.	Description	Stock No.	Description
H-1232	Skt., 1" 12 Pt.....	H-1248	Skt., 1½" 12 Pt...
H-1234	Skt., 1⅛" 12 Pt..	H-1252	Skt., 1⅝" 12 Pt...
H-1236	Skt., 1⅞" 12 Pt..	H-1254	Skt., 1⅞" 12 Pt.
H-1240	Skt., 1¼" 12 Pt..	H-1258	Skt., 1⅜" 12 Pt.
H-1242	Skt., 1⅜" 12 Pt..	H-20A	Sliding T Handle...
H-1246	Skt., 1⅞" 12 Pt..	H-110	Extension, 8".....



**L-619B STANDARD MECHANICS SET — 19 Tools in MB-110 Metal Box (illus.)**

**L-619B-1 STANDARD MECHANICS SET — 19 Tools in MB-109 Metal Box**

**L-619 STANDARD MECHANICS SET — 19 Tools without Metal Box**

Turning capacity from 1" through 2". A fine set of heavy duty tools for rugged work.

Stock No.	Description	Stock No.	Description	Stock No.	Description
H-1232	Socket, 1" 12 Pt.....	H-1252	Socket, 1⅝" 12 Pt.....	H-41	Flex Handle.....
H-1234	Socket, 1⅛" 12 Pt.....	H-1254	Socket, 1⅞" 12 Pt.....	H-51A	Ratchet Head.....
H-1236	Socket, 1⅞" 12 Pt.....	H-1258	Socket, 1⅜" 12 Pt.....	H-A2	Bar Handle.....
H-1240	Socket, 1¼" 12 Pt.....	H-1260	Socket, 1⅞" 12 Pt.....	H-104	Extension, 4".....
H-1242	Socket, 1⅜" 12 Pt.....	H-1264	Socket, 2" 12 Pt.....	H-110	Extension, 8".....
H-1246	Socket, 1⅞" 12 Pt.....	H-20A	Sliding T Handle.....	H-115	Extension, 15½".....
H-1248	Socket, 1½" 12 Pt.....				

A



B



**RUGGED QUALITY FOR TOUGH JOBS**  
**ACCURATELY BROACHED**  
**FULLY HEAT TREATED**  
**CHROME PLATED over NICKEL**

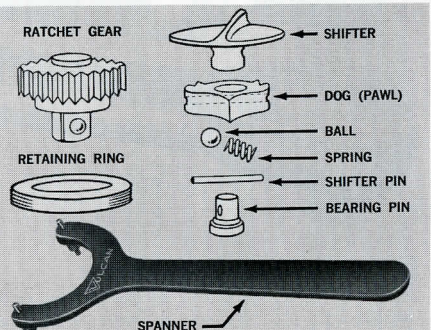
Heavy duty, rugged Sockets for the mechanic working on the big jobs. Selected Alloy Steel is used throughout, and carefully heat treated in modern, scientifically controlled equipment. Size range ⅞" through 2¼" for nuts and bolts ½" through 1½".

#### A DOUBLE HEX SOCKETS

Opening Size	Stock No.	Nose Diameter	Length	Opening Size	Stock No.	Nose Diameter	Length
⅞"	H-1228	1⅜"	2	1⅞"	H-1250	2⅞"	2⅞"
1⅜"	H-1230	1⅞"	2	1⅞"	H-1252	2⅞"	2⅞"
1	H-1232	1⅞"	2⅞"	1⅞"	H-1254	2⅞"	2⅞"
1⅞"	H-1234	1⅞"	2⅞"	1⅞"	H-1256	2⅞"	2⅞"
1⅞"	H-1236	1⅞"	2⅞"	1⅞"	H-1258	2⅞"	2⅞"
1⅞"	H-1238	1⅞"	2⅞"	1⅞"	H-1260	2⅞"	2⅞"
1¼"	H-1240	1⅞"	2⅞"	1⅞"	H-1264	2⅞"	2⅞"
1⅞"	H-1242	1⅞"	2⅞"	1⅞"	H-1266	2⅞"	2⅞"
1⅞"	H-1244	1⅞"	2⅞"	1⅞"	H-1268	2⅞"	2⅞"
1⅞"	H-1246	1⅞"	2⅞"	1⅞"	H-1270	2⅞"	2⅞"
1½"	H-1248	2⅞"	2⅞"	1⅞"	H-1272	2⅞"	2⅞"

#### B DOUBLE HEX DEEP SOCKETS

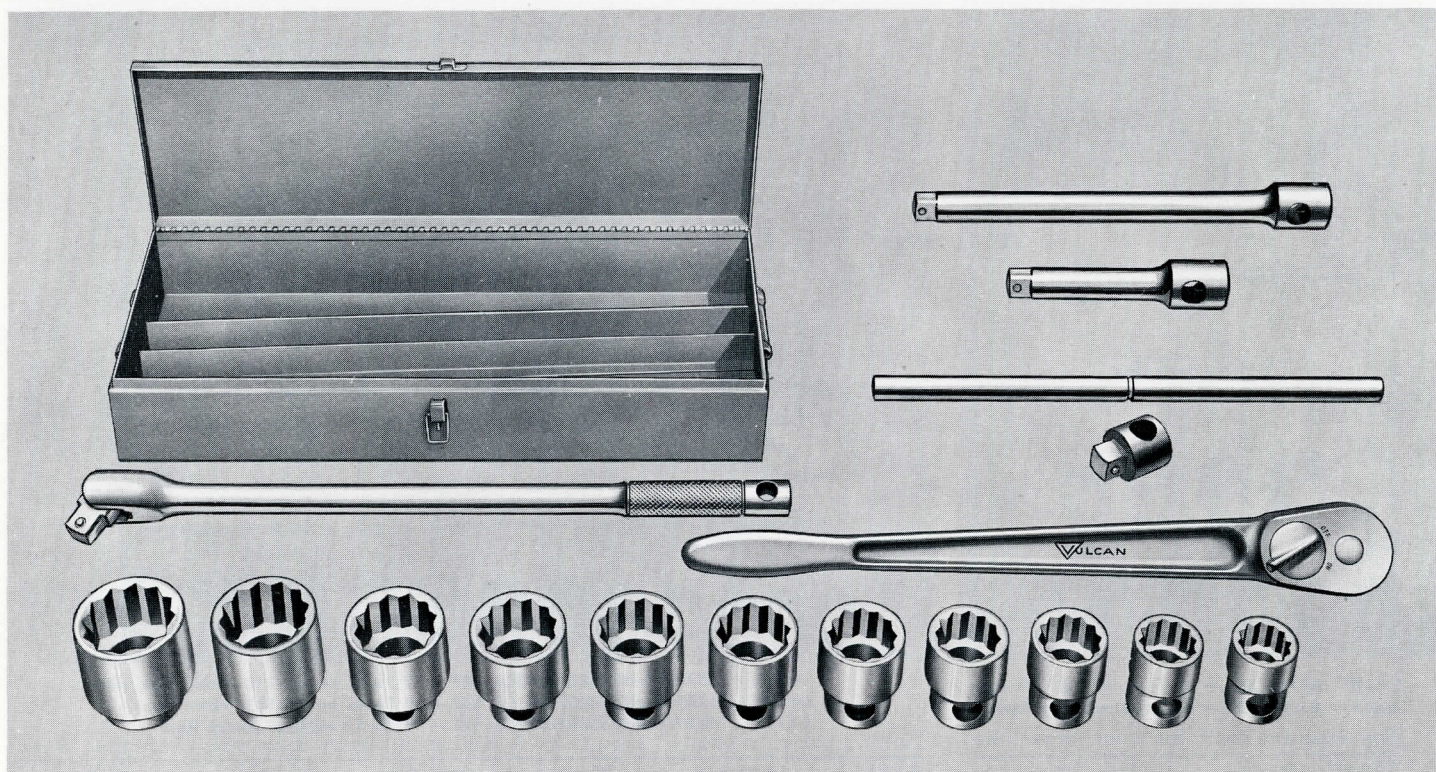
Opening Size	Stock No.	Nose Diameter	Length	Opening Size	Stock No.	Nose Diameter	Length
1⅞"	HD-1230	1⅞"	3¼"	1¼"	HD-1240	1⅞"	3¼"
1	HD-1232	1⅞"	3¼"	1⅞"	HD-1246	1⅞"	3¼"
1⅞"	HD-1234	1⅞"	3¼"	1⅞"	HD-1248	1⅞"	3¼"



#### H-51A RATCHET HEAD REPAIR PARTS

Stock No.	Description	Stock No.	Description
H-51RR	Gland	H-51S	Spring
H-51G	Gear & Plug	H-51SB	Shift Bolt
H-51D	Dog (Pawl)	H-51SBP	Bolt Pin
H-51BP	Bearing Pin	H-51P	Ball
426-R	Spanner Wrench for H-51RR Gland		



**L-817B MASTER MECHANICS SET — 17 Tools in MB-111 Metal Case****L-817 MASTER MECHANICS SET — 17 Tools without Metal Case**

Rugged, extra heavy duty tools for the really big jobs. Seventeen tools in all with turning capacity from  $1\frac{1}{2}$ " through  $2\frac{3}{8}$ ".

Stock No.	Description	Stock No.	Description	Stock No.	Description
X-1248	Socket, $1\frac{1}{2}$ " 12 Point.....	X-1270	Socket, $2\frac{3}{16}$ " 12 Point.....	X-20C	Sliding Adaptor.....
X-1252	Socket, $1\frac{5}{8}$ " 12 Point.....	X-1272	Socket, $2\frac{1}{4}$ " 12 Point.....	X-41	Flex Handle.....
X-1258	Socket, $1\frac{7}{8}$ " 12 Point.....	X-1276	Socket, $2\frac{3}{8}$ " 12 Point.....	X-51	Ratchet.....
X-1260	Socket, $1\frac{7}{8}$ " 12 Point.....	X-1282	Socket, $2\frac{3}{16}$ " 12 Point.....	X-110	Extension, 9".....
X-1264	Socket, 2" 12 Point.....	X-1284	Socket, $2\frac{5}{8}$ " 12 Point.....	X-115	Extension, 18".....
X-1268	Socket, $2\frac{1}{8}$ " 12 Point.....	X-20B	Sliding Handle.....		

**A X-20C SLIDING BAR ADAPTOR**

Sliding head adaptor can be placed anywhere on X-20B Bar to form a rugged Sliding T Handle with plenty of leverage.

**B X-20B BAR HANDLE**

Use with X-20C, X-110 or X-115 to make Sliding T Handles. Diam., 1"; length, 20".

**C X-110 EXTENSION BAR**

This 9" extension bar has 1" diameter cross-hole for use with X-20B Bar. Has positive, safe "Lock-Socket" feature.

**D X-51 REVERSIBLE RATCHET**

Brute strength with well balanced design makes this extra heavy duty ratchet most efficient on big, tough jobs. Ratchet gear has 24 teeth instead of usual 16. Overall length, 25".

**E X-41 FLEX HANDLE**

Here is leverage plus for turning big, heavy nuts. Flexible head maintains angle selected. Knurled grip has cross-hole for sliding bar. Overall length, 27".

**F X-115 EXTENSION BAR**

Can be used as an extension or, with X-20B Bar in 1" diameter cross-hole, as a Sliding T handle. "Lock-Socket" feature is safe and positive. Length, 18".

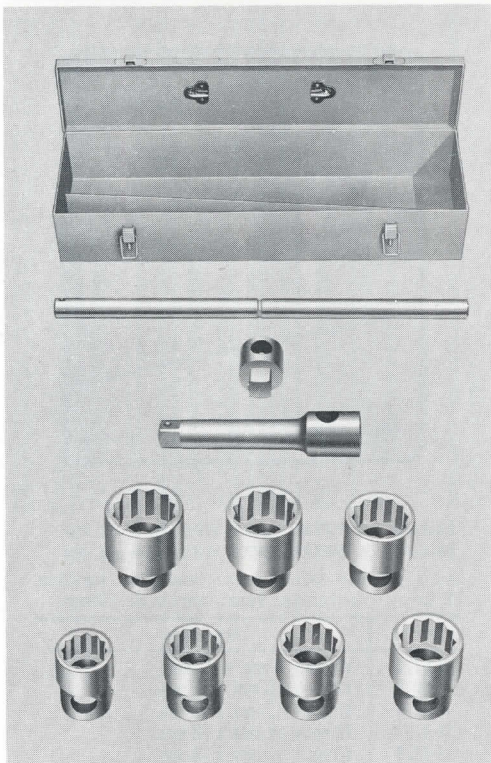
**G HNX-130 ADAPTOR**

1" square male and  $\frac{3}{4}$ " square female. Adapts 1" drive sockets to  $\frac{3}{4}$ " drivers.

**HNX-131 ADAPTOR**

1" square female and  $\frac{3}{4}$ " square male. Adapts 1" drivers to  $\frac{3}{4}$ " sockets.

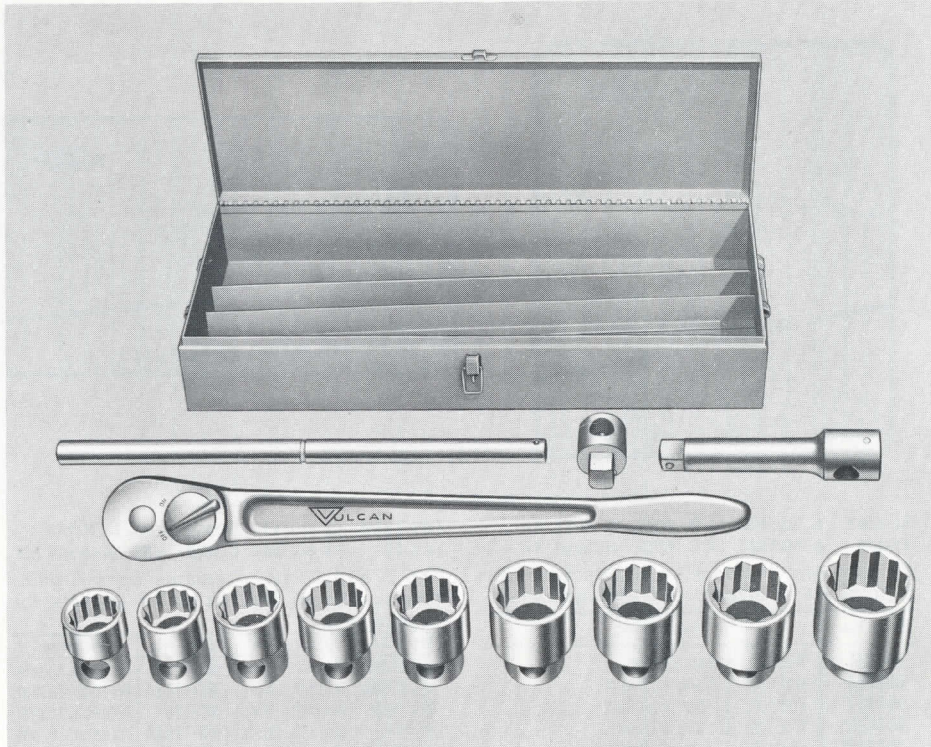




**L-810B BASIC SET — 10 Tools in MB-109 Box**  
**L-810 BASIC SET — 10 Tools without Box**

Set contains the most needed handles and sockets to do general repair and rebuild work. Socket sizes from 1½" through 2¼".

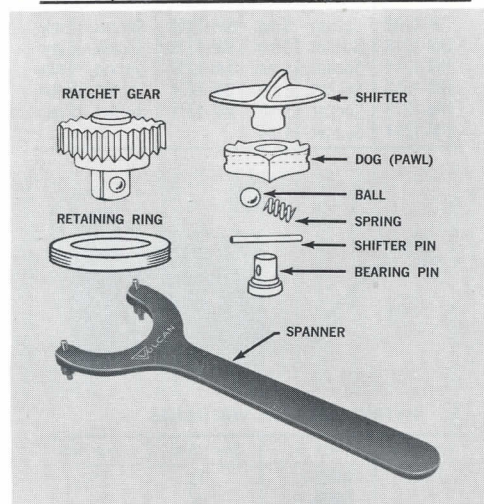
Stock No.	Description	Stock No.	Description
X-1248	Skt., 1½" 12 Pt.	X-1270	Skt., 2¾" 12 Pt.
X-1252	Skt., 1⅝" 12 Pt.	X-1272	Skt., 2⅞" 12 Pt.
X-1258	Skt., 1⅞" 12 Pt.	X-20B	Sliding Handle
X-1260	Skt., 1⅞" 12 Pt.	X-20C	Sliding Adaptor
X-1264	Skt., 2" 12 Pt.	X-110	Extension, 9"



**L-813B STANDARD MECHANICS SET — 13 Tools in MB-111 Metal Box**  
**L-813 STANDARD MECHANICS SET — 13 Tools without Metal Box**

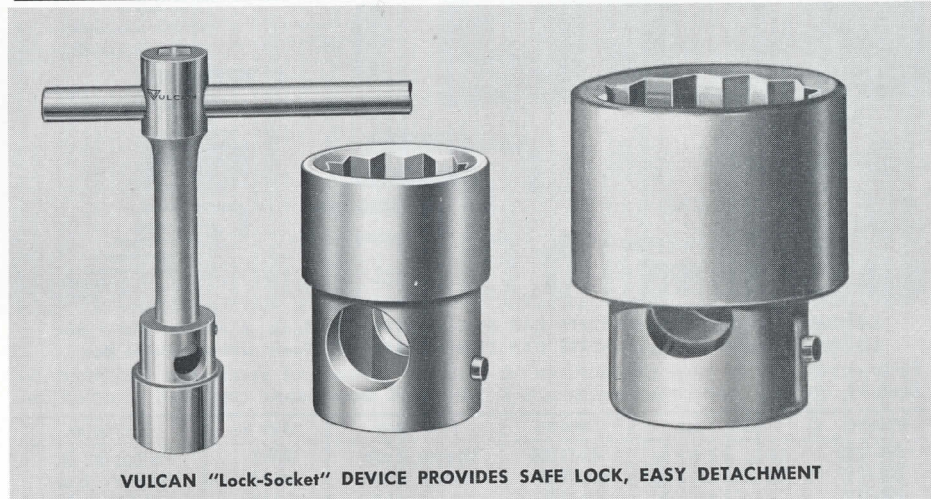
Will handle all heavy series hex nuts and bolts for bolt diameters from 1" through 1⅞". Double hexagon socket openings from 1½" through 2¾". The handles, ratchet and extension combine with the sockets to make a universal set for heavy maintenance.

Stock No.	Description	Stock No.	Description
X-1248	Socket, 1½" 12 Point	X-1276	Socket, 2⅞" 12 Point
X-1252	Socket, 1⅝" 12 Point	X-1282	Socket, 2⅞" 12 Point
X-1258	Socket, 1⅞" 12 Point	X-20B	Sliding Handle
X-1260	Socket, 1⅞" 12 Point	X-20C	Sliding Adaptor
X-1264	Socket, 2" 12 Point	X-51	Ratchet
X-1270	Socket, 2¾" 12 Point	X-110	Extension, 9"
X-1272	Socket, 2⅞" 12 Point		



#### X-51 RATCHET REPAIR PARTS

Stock No.	Description
X-51RR	Retaining Ring
X-51G	Gear and Plug
X-51D	Dog (Pawl)
X-51BP	Bearing Pin
X-51S	Spring
X-51SB	Shifter Bolt
X-51SBP	Shift Bolt Pin
X-51P	Ball
428-R	Spanner Wrench



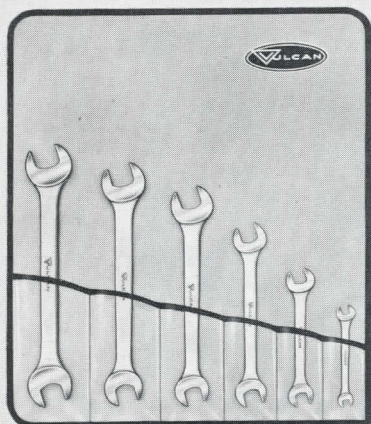
#### DOUBLE HEX SOCKETS

The VULCAN "Lock-Socket" prevents socket from separating from its driver during operation. A press of the release button and the two are separated.

†Sockets with short neck, no cross-hole.

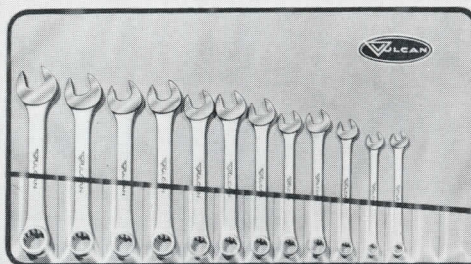
Opening Size	Stock No.	Nose Diameter	Length	Opening Size	Stock No.	Nose Diameter	Length
1½"	X-1248	2¼"	3"	2⅞"	X-1272	3¼"	3⅞"
1⅝"	X-1252	2⅝"	3⅞"	2⅞"	X-1276	3⅝"	4"
1⅞"	X-1258	2⅞"	3¼"	2⅞"	†X-1282	3¾"	4"
2"	X-1260	2⅞"	3⅞"	2⅞"	†X-1284	3¾"	4"
2⅞"	X-1264	2⅞"	3⅞"	2⅞"	†X-1288	3⅞"	4¼"
2⅞"	X-1268	3"	3⅞"	2⅞"	†X-1294	4⅞"	4¼"
2⅞"	X-1270	3⅞"	3¼"	2⅞"	†X-12100	4⅞"	4½"





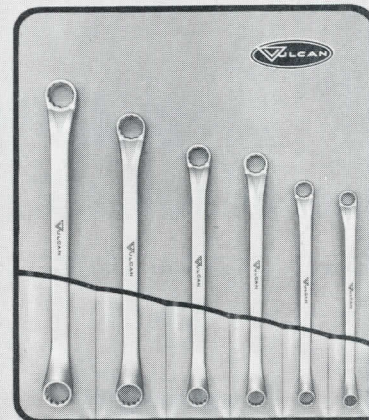
**LE-6MK 6 METRIC END WRS. in K-62 Kit**  
**LE-6M 6 METRIC END WRS. without Kit**  
 Six open end wrenches including the most popular metric sizes from 6 through 22mm.

Stock No.	Description
M-1021	Wrench, 6 mm. x 8 mm. ....
M-1023	Wrench, 10 mm. x 12 mm. ....
M-1027	Wrench, 14 mm. x 16 mm. ....
M-1028	Wrench, 16 mm. x 18 mm. ....
M-1028T	Wrench, 17 mm. x 19 mm. ....
M-1031	Wrench, 20 mm. x 22 mm. ....



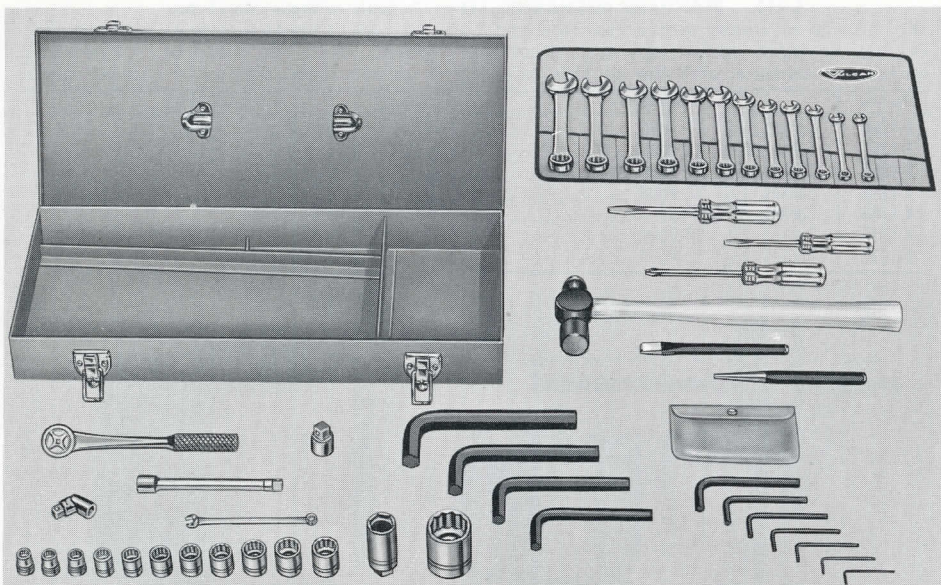
**LCS-12MK 12 METRIC COMB. WRS. in K-142 Kit**  
**LCS-12 12 METRIC COMB. WRS. without Kit**  
 The 7 and 8 mm wrenches have 6-point box openings. Two extra kit pockets for expansion.

Stock No.	Description	Stock No.	Description
MS-1159	Wrench, 7mm	MS-1163	Wrench, 13mm
MS-1159A	Wrench, 8mm	MS-1163A	Wrench, 14mm
MS-1160	Wrench, 9mm	MS-1164	Wrench, 15mm
MS-1161	Wrench, 10mm	MS-1164A	Wrench, 16mm
MS-1161A	Wrench, 11mm	MS-1165	Wrench, 17mm
MS-1162	Wrench, 12mm	MS-1166	Wrench, 18mm



**LB-6MK 6 METRIC BOX WRS. in K-62 Kit**  
**LB-6M 6 METRIC BOX WRS. without Kit**  
 Long double offset box wrenches having 12 point openings. 9mm. through 20mm.

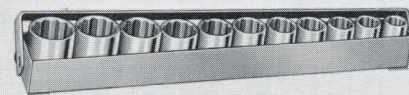
Stock No.	Description
M-8723	Wrench, 9 mm. x 10 mm. ....
M-8023	Wrench, 10 mm. x 12 mm. ....
M-8025	Wrench, 13 mm. x 15 mm. ....
M-8727	Wrench, 14 mm. x 16 mm. ....
M-8029	Wrench, 17 mm. x 19 mm. ....
M-8731A	Wrench, 18 mm. x 20 mm. ....



**L-347MB METRIC SET for SPORTS CAR ENTHUSIASTS — 47 Tools in MB-112 Metal Box**  
**L-347M METRIC SET for SPORTS CAR ENTHUSIASTS — 47 Tools without Metal Box**

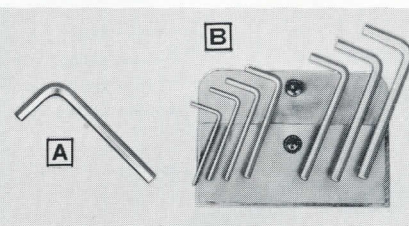
Forty-seven of the most popular metric tools for all-around sports car maintenance. Sockets, handles and attachments are  $\frac{3}{8}$ " drive. A most useful and well planned set.

Stock No.	Description	Stock No.	Description	Stock No.	Description
BM-1209	Skt., 9 mm x $\frac{3}{8}$	MS-1159A	Wrench, 8 mm	SDP-2	Phillips Sc. Dr.
BM-1210	Skt., 10 mm x $\frac{3}{8}$	MS-1160	Wrench, 9 mm	BH-16	Hammer, 16 oz.
BM-1211	Skt., 11 mm x $\frac{3}{8}$	MS-1161	Wrench, 10 mm	C-116	Flat Chisel, $\frac{1}{2}$
BM-1212	Skt., 12 mm x $\frac{3}{8}$	MS-1161A	Wrench, 11 mm	P-206	Start Punch, $\frac{3}{16}$
BM-1213	Skt., 13 mm x $\frac{3}{8}$	MS-1162	Wrench, 12 mm	HWM-2	Hex Key, 2 mm
BM-1214	Skt., 14 mm x $\frac{3}{8}$	MS-1163	Wrench, 13 mm	HWM-2½	Hex Key, 2.5 mm
BM-1215	Skt., 15 mm x $\frac{3}{8}$	MS-1163A	Wrench, 14 mm	HWM-3	Hex Key, 3 mm
BM-1216	Skt., 16 mm x $\frac{3}{8}$	MS-1164	Wrench, 15 mm	HWM-4	Hex Key, 4 mm
BM-1217	Skt., 17 mm x $\frac{3}{8}$	MS-1164A	Wrench, 16 mm	HWM-5	Hex Key, 5 mm
BM-1218	Skt., 18 mm x $\frac{3}{8}$	MS-1165	Wrench, 17 mm	HWM-6	Hex Key, 6 mm
BM-1219	Skt., 19 mm x $\frac{3}{8}$	MS-1166	Wrench, 18 mm	HWM-8	Hex Key, 8 mm
BD-626R	Skt., Spark Plug	XOEM-6	Wrench, 6 mm	HWM-10	Hex Key, 10 mm
B-52	Ratchet, $\frac{3}{8}$	STM-1236	Skt., 36 mm x $\frac{1}{2}$	HWM-12	Hex Key, 12 mm
B-110	Extension, $\frac{5}{2}$	BS-130	Adpt. $\frac{3}{8}$ to $\frac{1}{2}$	HWM-14	Hex Key, 14 mm
B-140	Universal, $\frac{3}{8}$	SD-3	Screw Dr., 3"	HWM-17	Hex Key, 17 mm
MS-1159	Wrench, 7 mm	SD-4	Screw Dr., 4"	K-142	Wrench Kit Bag



**LR-3211MT 11-3/8" Dr. MTRC. SKTS. in MB-23 Tray**  
**LR-3211M 11-3/8" Dr. MTRC. SKTS. without Tray**  
 12-pt. Sockets, sizes 9 mm through 19 mm.

Stock No.	Description	Stock No.	Description
BM-1209	Socket, 9 mm	BM-1215	Socket, 15 mm
BM-1210	Socket, 10 mm	BM-1216	Socket, 16 mm
BM-1211	Socket, 11 mm	BM-1217	Socket, 17 mm
BM-1212	Socket, 12 mm	BM-1218	Socket, 18 mm
BM-1213	Socket, 13 mm	BM-1219	Socket, 19 mm
BM-1214	Socket, 14 mm		



**A METRIC HEX KEY WRENCHES**

Hex Size	Stock No.	Short Arm	Long Arm
2 mm	HWM-2	$\frac{21}{32}$	$1\frac{15}{16}$
2.5 mm	HWM-2½	$\frac{25}{32}$	$2\frac{1}{32}$
3 mm	HWM-3	$\frac{7}{8}$	$2\frac{9}{16}$
4 mm	HWM-4	$1\frac{1}{16}$	$2\frac{13}{16}$
5 mm	HWM-5	$1\frac{3}{32}$	$3\frac{1}{16}$
6 mm	HWM-6	$1\frac{13}{32}$	$3\frac{3}{32}$
8 mm	HWM-8	$1\frac{9}{16}$	$4\frac{1}{16}$
10 mm	HWM-10	$1\frac{15}{16}$	$4\frac{27}{32}$
12 mm	HWM-12	$1\frac{13}{4}$	$5\frac{1}{16}$
14 mm	HWM-14	$1\frac{7}{8}$	$5\frac{3}{4}$
17 mm	HWM-17	2	$6\frac{5}{16}$

**B HWM-7S 7 METRIC HEX KEY WRENCHES**

Seven wrench sizes, 2mm through 8mm as listed above in a clear plastic envelope.



# METRIC OPEN END, COMBINATION BOX, SOCKET and TORQUE WRENCHES

**SLIMMER HEADS — LONG NARROW JAWS  
FOR MAXIMUM CLEARANCE**

**SHORT COMBINATION WRENCHES  
HAVE SAME OPENING SIZES  
IN BOTH HEADS  
WHERE ONE DOES NOT WORK  
THE OTHER WILL**

**VULCAN WRENCHES ARE DROP-FORGED  
FROM SELECTED ALLOY STEEL  
AND FULLY HEAT-TREATED**

## A METRIC OPEN END WRENCHES

All of the important millimeter openings from 6 through 28 mm. Beautifully balanced end wrenches for maximum ease.

Openings	Stock No.	Small Head		Large Head		Length
		Width	Thick	Width	Thick	
6 & 8 mm.	M-1021	1/2	5/32	3/4	5/32	3 13/16
8 & 10 mm.	M-1021T	3/8	3/16	25/32	3/16	4 1/4
10 & 12 mm.	M-1023	5/16	1/4	15/16	1/4	5 1/8
14 & 16 mm.	M-1027	1 1/16	1 1/4	1 1/4	1 1/4	6 7/8
16 & 18 mm.	M-1028	1 1/8	1 1/4	1 1/2	1 1/4	8 1/4
17 & 19 mm.	M-1028T	1 1/8	1 1/4	1 1/2	1 1/4	9
20 & 22 mm.	M-1031	1 1/2	1 1/2	1 3/4	1 1/2	9 3/4
21 & 23 mm.	M-1031T	1 1/2	1 1/2	1 3/4	1 1/2	10 1/2
24 & 26 mm.	M-1033	1 3/4	1 3/4	2	1 3/4	11 3/8
25 & 28 mm.	M-1035	2	2	2 1/4	2	12 1/4

## B METRIC SHORT COMBINATION WRENCHES

Short, compact wrenches to help you do a more efficient job in close quarters. †MS-1159 & MS-1159A have 6-Pt. box openings.

Openings	Stock No.	Open End		Box End		Length
		Width	Thick	Width	Thick	
7 mm.	†MS-1159	43/64	3/16	33/64	7/32	4 5/8
8 mm.	†MS-1159A	43/64	3/16	33/64	7/32	4 5/8
9 mm.	MS-1160	51/64	13/64	37/64	1/4	5 1/16
10 mm.	MS-1161	29/32	7/32	21/32	5/16	5 3/8
11 mm.	MS-1161A	29/32	7/32	21/32	5/16	5 3/8
12 mm.	MS-1162	1 1/32	1/4	47/64	21/64	5 15/16
13 mm.	MS-1163	1 5/32	9/32	53/64	11/32	6 1/8
14 mm.	MS-1163A	1 5/32	9/32	53/64	11/32	6 1/8
15 mm.	MS-1164	1 1/2	1 1/4	59/64	3/8	6 1/2
16 mm.	MS-1164A	1 1/2	1 1/4	59/64	3/8	6 1/2
17 mm.	MS-1165	1 13/32	5/16	1 1/4	13/32	6 3/4
18 mm.	MS-1166	1 17/32	11/32	1 1/2	7/16	7

## C METRIC OFFSET BOX WRENCHES

Double offset box wrenches from 9mm. thru 20mm. The long, thin pattern is designed to clear troublesome obstructions easily.

Openings	Stock No.	Small Head		Large Head		Length
		Width	Thick	Width	Thick	
9 & 11 mm.	M-8723	37/64	1/4	21/32	9/32	7 3/4
10 & 12 mm.	M-8023	21/32	19/64	47/64	21/64	8 1/16
13 & 15 mm.	M-8025	47/64	21/64	7/8	23/64	9 1/16
14 & 16 mm.	M-8727	53/64	11/32	29/32	3/8	9 3/8
17 & 19 mm.	M-8029	1	1 3/32	1 5/64	7/16	10 1/2
18 & 20 mm.	M-8731A	1 1/64	31/64	1 1/4	33/64	11 5/8

## D SPECIAL METRIC COMBINATION WRENCH

6 millimeter for ignition and carburetor adjustments. Box end has 6 point opening.

Openings	Stock No.	Open End		Box End		Length
		Width	Thick	Width	Thick	
6 mm.	XOEM-6	39/64	5/32	13/32	3/16	5

A



B



Alloy steel, fully heat-treated and nickel chrome plated. 3/8" and 1/2" square drives.

Opening Size	Stock No.	Opening Size	Stock No.
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## A 3/8" Drive METRIC DOUBLE HEX SOCKETS

9 mm.	BM-1209	15 mm.	BM-1215
10 mm.	BM-1210	16 mm.	BM-1216
11 mm.	BM-1211	17 mm.	BM-1217
12 mm.	BM-1212	18 mm.	BM-1218
13 mm.	BM-1213	19 mm.	BM-1219
14 mm.	BM-1214		

## B 1/2" Drive METRIC DOUBLE HEX SOCKETS

10 mm.	STM-1210	17 mm.	STM-1217
11 mm.	STM-1211	18 mm.	STM-1218
12 mm.	STM-1212	19 mm.	STM-1219
13 mm.	STM-1213	20 mm.	STM-1220
14 mm.	STM-1214	21 mm.	STM-1221
15 mm.	STM-1215	22 mm.	STM-1222
16 mm.	STM-1216	23 mm.	STM-1223

LR-4214 M SET OF 14, 1/2" DR. SKTS. ABOVE

A



B



## A HWM-17 17mm HEX KEY WRENCH

17 mm. hex key size required for all VW drain plugs. Length, 6 5/8". Short arm 2" long.

**B STM-1236 36mm DOUBLE HEX SOCKET**  
For VW Transporter front wheel drum nuts and transmission on all VW vehicles. 1/2" square drive, 1 1/2" diameter, 1 7/32" long.



## A METRIC MECHANICS TORQUE WRENCHES

Torque wrenches designed and priced for the mechanic. Guaranteed, life time accuracy. Patented pivot grip handle. Rugged construction. Almost indestructible.

Stock No.	Square Drive Inches	Torque Capacity Meter/Kg.	Graduation Intervals Meter/Kg.	Lever Arm Length Inches	Maximum Pull Pounds	Overall Length Inches
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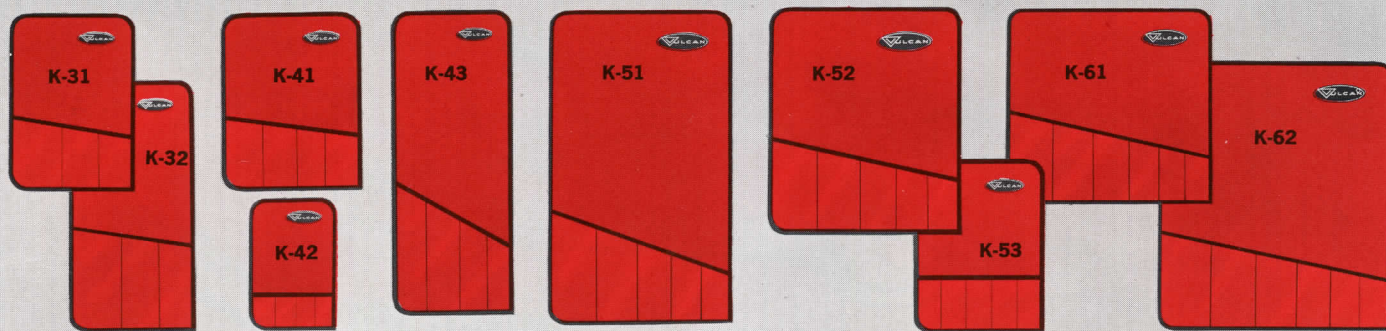
## A METRIC MECHANICS TORQUE WRENCHES

TWM-14	1/2	0-14	0.5	16 1/16	72.2	19 1/16
TWM-21	1/2	0-21	1.0	16 1/16	107.9	19 1/16

## B METRIC SENSORY SIGNALING TORQUE WRENCHES

TWM-3S	3/8	0-3.5	0.125	13 1/2	22.2	16
TWM-7S	3/8	0-7	0.25	13 1/2	44.4	16
TWM-14S	1/2	0-14	0.5	15	80.0	17 1/2
TWM-21S	1/2	0-21	1.0	18	100.0	20 3/8
TWM-28S	1/2	0-28	1.0	24	100.0	28 7/8
TWM-42S	3/4	0-42	1.0	30	120.0	34 1/4

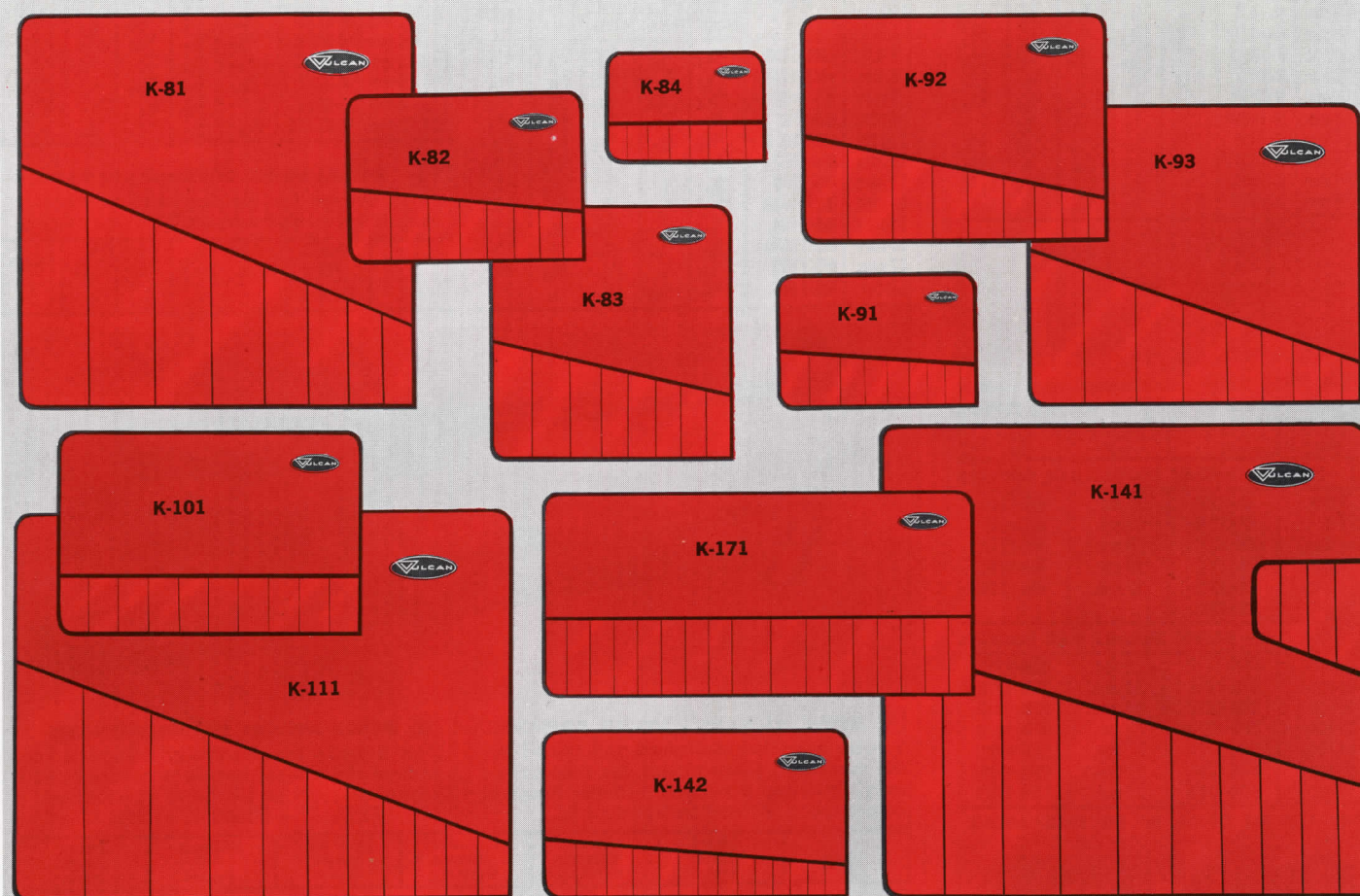




VULCAN Kit Bags are made of the finest heavy gauge vinyl plastic. They will not dry out or crack under the most severe changes in temperature or weather. They

are mildew and vermin proof throughout. Pocket facings are water clear plastic and all bindings are plastic impregnated. Each kit has long lasting, sturdy ties.

Stock No.	No. Pockets	Dimensions		Used for Set Nos.	Stock No.	No. Pockets	Dimensions		Used for Set Nos.
		Width	Height				Width	Height	
K-31	3	6½	9½	LBS-3K (pg. 35), LRB-3K (pg. 32).....	K-51	5	10¼	18	LB-5K (pg. 35).....
K-32	3	6½	13½	LBA-3K (pg. 34).....	K-52	5	10¼	12	LCC-5K (pg. 52), LCF-5K (pg. 38).....
K-41	4	7¼	9½	LBAS-4K (pg. 34), LCS-4K (pg. 33).....	K-53	5	6½	9	LP-5K (pg. 53), LPC-5K (pg. 52), LPS-5K (pg. 53).....
K-42	4	4¾	7¾	LBM-4K (pg. 35), LC-4K (pg. 33).....	K-61	6	13	12	LBS-6K (pg. 35), LRB-6K (pg. 32).....
K-43	4	6½	17	LP-4K (pg. 53).....	K-62	6	13	15½	LB-6MK (pg. 16), LE-6K (pg. 37), LE-6MK (pg. 16).....



Stock No.	No. Pockets	Dimensions		Used for Set Nos.	Stock No.	No. Pockets	Dimensions		Used for Set Nos.
		Width	Height				Width	Height	
K-81	8	22¾	22	LB-8K (pg. 35).....	K-93	9	19½	17	LE-9K (pg. 37).....
K-82	8	14¼	10	LCS-8K (pg. 33).....	K-101	10	17¾	11½	LCC-10K (pg. 52), LP-10K (pg. 53).....
K-83	8	14¾	15	LC-8K (pg. 33), LC-608K (pg. 33), LT-8K (pg. 37).....	K-111	11	28	22	LB-11K (pg. 35).....
K-84	8	8¾	6	LI-8K (pg. 40).....	K-141	14	27¾	25¾	LC-14K (pg. 33).....
K-91	9	11¾	7½	LA-9K (pg. 36).....	K-142	14	17¾	9½	LA-13K (pg. 36), LCS-12MK (pg. 16), LI-14K (pg. 66).....
K-92	9	17¾	12½	LE-90K (pg. 37).....	K-171	17	25¼	12	LPC-17K (pg. 52).....





AS A SYMBOL OF HIGH QUALITY  
AND CRAFTSMANSHIP WE AFFIX  
THIS DIE-CAST, CHROME-PLATED NAME PLATE  
TO EACH VULCAN TOOL CHEST  
AND ROLLER CABINET

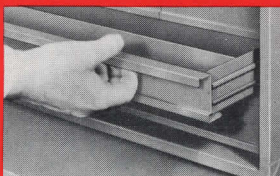


- ▼ HEAVY GAUGE WELDED STEEL CONSTRUCTION
- ▼ ALL SURFACES BONDERIZED TO RESIST RUST
- ▼ HIGH-LUSTER, CHIP-RESISTANT BAKED ENAMEL
- ▼ HEAVY DUTY TUMBLERS AND LOCKING MECHANISMS
- ▼ LONG WEARING, HIGH-IMPACT COMPOSITION CASTERS

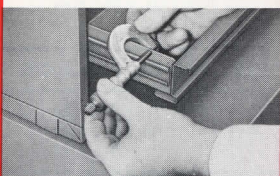
VULCAN Chests and Cabinets provide flexibility with rugged construction, making it possible for you to select the best arrangement to fit your personal requirements. Every consideration has been given to produce equipment of excellent quality and craftsmanship. Heavy gauge steel is used throughout and all stress points are reinforced for maximum strength and durability. All surfaces are bonderized to resist rusting and chipping, and then finished with baked on red enamel. The heavy duty tumbler locks used in all units are the finest available. In all cases, the locking mechanism has been carefully designed to provide the greatest possible protection for your tools. All drawers glide on smooth running, heavy duty slides that are spill proof and allow opening to the full depth of the drawer. All cabinets are equipped with casters made of high impact composition to resist breaking and give longer life. Two casters are ball bearing swivel and provided with brakes. The other two casters are stationary to allow maximum maneuverability and easy rolling.

Even the appearance spells quality and craftsmanship throughout. The exclusive VULCAN "straight line" design is modern and functional. We are proud to offer the finest equipment available for your Mobile Workshop and safe keeping of your fine tools.

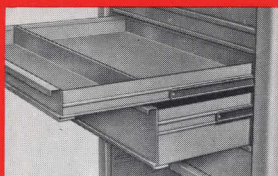
THESE ADVANCED DESIGN AND CONSTRUCTION FEATURES OFFER LONG SERVICE, FULL PROTECTION AND CONVENIENCE



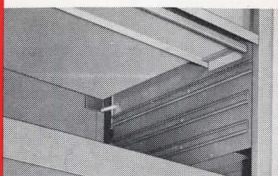
"Straight line" design with full length drawer pulls for efficient finger tip opening.



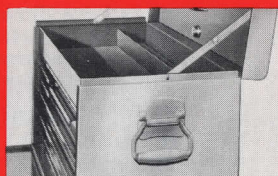
Heavy gauge steel and liberal use of weldments. Deep hemming for added safety and rigidity.



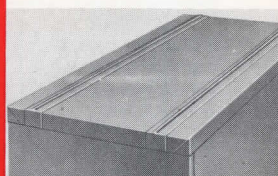
Drawers slide smoothly to their full depth on heavy duty runners that will not sag or spill.



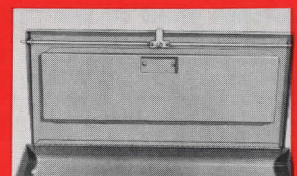
Double wall construction, extra reinforcing at stress points. Add-A-Drawer runners included.



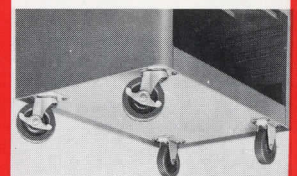
Heavy duty, comfort grip side handles. Positive lid braces and full length piano hinges.



Bottoms of all Chests include heavy duty runners adding extra rigidity and greater mobility.



Finest tumbler locks and excellently designed locking to give you maximum security and safety.



Castors are extra duty high impact composition. 2 full swivel casters have locking brakes.





- A MB-227V SEVEN DRAWER HEAVY DUTY TOOL CHEST**
- LARGEST DRAWER SPACE AVAILABLE
  - HEAVY CHROME PLATED DRAWER PULLS
  - FULL OPENING, SMOOTH GLIDING DRAWER RUNNERS
  - DOUBLE REINFORCED CONSTRUCTION
  - BONDORIZED HEAVY GAUGE STEEL FINISHED IN RED BAKED ON ENAMEL

Rugged construction with beauty and usefulness. The extra large drawers will accept tools 27½" long when laid straight, or more than 30" when laid corner to corner. This fine Chest is designed and matched for use with either MB-324V or MB-326V described and illustrated on page 25. Top compartment fitted for optional MB-51V.

#### SPECIFICATIONS

Overall Dimensions: 31½" L x 15½" W x 17½" H.  
Top Compartment: 31" x 14½" x 5½" high.  
Inside Area: 5640 cu. inches, 3.264 cu. feet.  
Shipping wgt. 135 pounds, Net wgt. 110 pounds.

Three top drawers	8⅞" x 13⅞" x 1⅞" high
Second drawer	27⅞" x 13⅞" x 1⅞" high
Third & fourth drawers	27⅞" x 13⅞" x 1⅞" high
Bottom drawer	27⅞" x 13⅞" x 3⅞" high

#### B C TOOL CHESTS

Two and three drawer Chests with all the quality features found in other VULCAN Chests. Top partitioned for MB-51V Tray.

#### SPECIFICATIONS

Overall Dimensions: 24⅞" L x 12⅞" W x 12⅞" H.  
Top Compartment: 24" x 11⅞" x 3⅞" high.  
Inside Area: 2770 cu. inches, 1.603 cu. feet.  
Shipping wgt. 47 pounds, Net wgt. 42½ pounds.

#### B MB-202V TWO DRAWER TOOL CHEST

Both drawers	21⅞" x 10½" x 3⅞" high
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#### C MB-203V THREE DRAWER TOOL CHEST

Top drawer	21⅞" x 10½" x 1⅞" high
Middle drawer	21⅞" x 10½" x 2" high
Bottom drawer	21⅞" x 10½" x 3⅞" high

#### D MB-1011V HEAVY DUTY UTILITY BOX

Heavy duty box designed for rugged use. Lid has comfortable tubular carrying handle. Each end has heavy duty chest handle. Furnished with MB-51V Tote Tray shown and described on page 20.

#### SPECIFICATIONS

Overall Dimensions: 26⅞" L x 8⅞" W x 8⅞" H.  
Inside Area: 2000 cu. inches, 1.160 cu. feet.  
Shipping wgt. 22¼ pounds, Net wgt. 20⅞ pounds.

#### E MB-236V SIX DRAWER EXTRA HEAVY DUTY TOOL CHEST

Heavy 16 gauge (.059) steel is used in the rugged frame. Liberal use of double reinforcing at all stress points. Capable of the most severe field use.

#### SPECIFICATIONS

Overall Dimensions: 26" L x 12⅞" W x 14⅞" H.  
Top Compartment: 26⅞" x 12⅞" x 4⅞" high.  
Inside Area: 3850 cu. inches, 2.228 cu. feet.  
Shipping wgt. 82 pounds, Net wgt. 74 pounds.

Top outside drawers	4½" x 11½" x 1⅞" high
Top center drawer	12⅞" x 11½" x 1⅞" high
First wide drawer	23 x 11½" x 1⅞" high
Next to bottom drawer	23 x 11½" x 1⅞" high
Bottom drawer	23 x 11½" x 3⅞" high

#### F MB-10 UTILITY BOX

Handy box to protect valuable instruments. 8½" long x 5⅞" wide x 2½" high.

#### G MB-6 HIP ROOF BOX

Exceptionally useful and well designed Hip Roof Box 23¼" long x 7½" wide x 5⅞" high. Lid allows 9" inside height through the middle. MB-40 Tote Tray described below is furnished.

#### H MB-40 TOTE TRAY

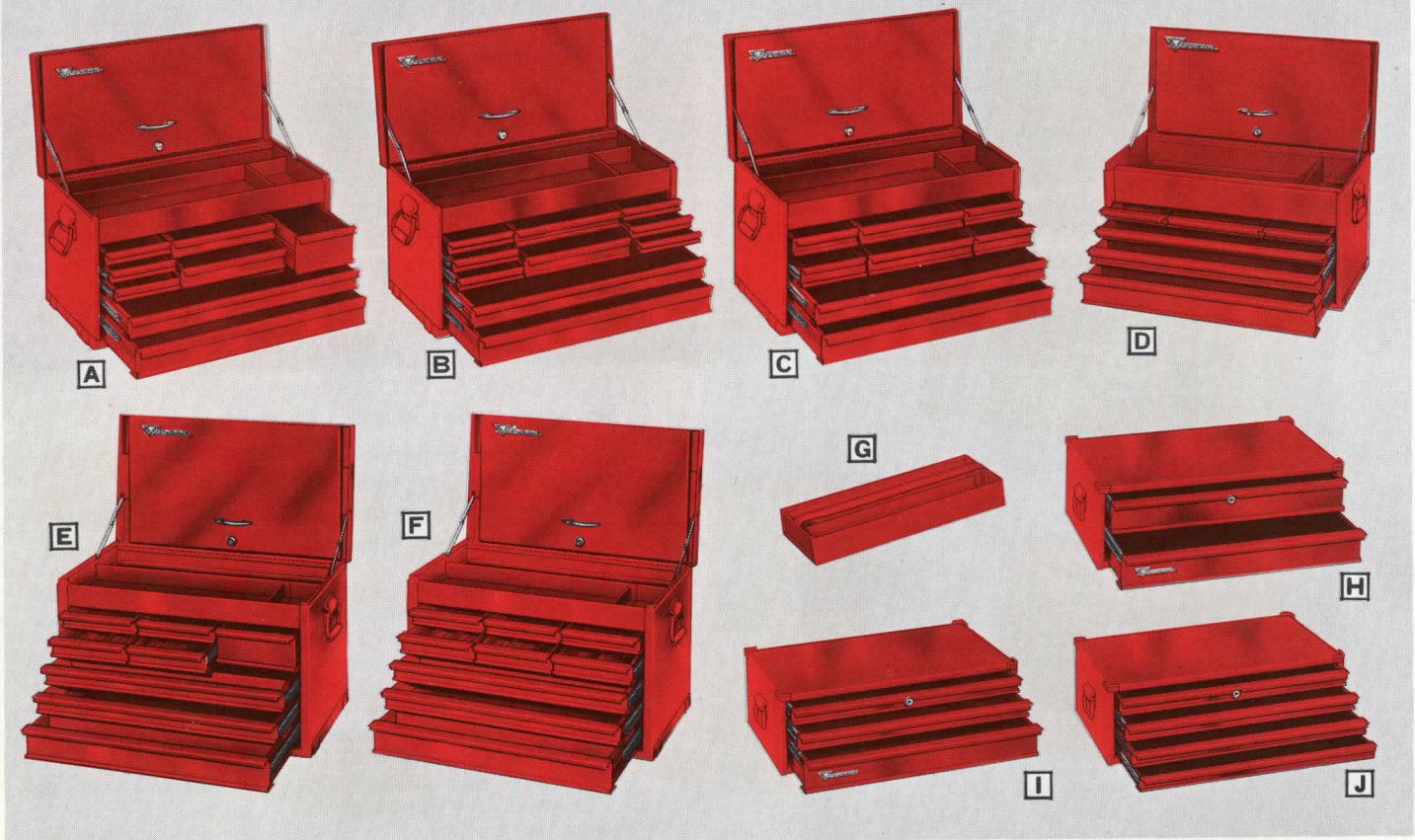
Tray for MB-6. 23" L x 7¾" W x 2¼" high.

#### OTHER METAL BOXES

Throughout this Catalog, various Tool Sets are illustrated in Metal Boxes and Trays which are designed especially for the tools included in those sets. Listed below is the stock number of these Trays and Boxes and the important dimensions of each. The dimensions given are inside measurements.

Stock No.	Description	Page Nos.	Dimensions			Stock No.	Description	Page Nos.	Dimensions			Stock No.	Description	Page Nos.	Dimensions		
			Long	Wide	High				Long	Wide	High				Long	Wide	High
MB-20	Tray	5	7⅞	1⅞-¾	¾	MB-32	Tray	9	12⅞	1⅞-1	1	MB-106	Box	8	11⅞	3¾	1¾
MB-21	Tray	4	7⅞	1¼-¾	1½	MB-33	Tray	9	12	1¾-¾	1⅞	MB-107	Box	9	19½	7¾	2¼
MB-22	Tray	5	9⅞	1¼-1⅞	¾	MB-101	Box	2, 5	7	3¼	1⅞	MB-108	Box	8	19½	7¾	2¼
MB-23	Tray	16	8⅞	1⅞-¾	¾	MB-102	Box	2	10⅞	4	1⅞	MB-109	Box	13, 15	20½	5	4
MB-25	Box	4	5⅞	1⅞	1⅞	MB-103	Box	5	7¼	2½	1⅞	MB-110	Box	12, 13	26⅞	9	4¼
MB-30	Tray	9, 42	16⅞	1⅞-1	1¼	MB-104	Box	5	13⅞	4	1⅞	MB-111	Box	14, 15	26⅞	9	4¼
MB-31	Tray	9, 42	12⅞	1⅞-1⅞	2½	MB-105	Box	4	19½	7¾	2¼	MB-112	Box	16	19½	7¾	2¼



**A B C TOOL CHESTS**

Very versatile chests to fill the need of every mechanic. Maximum protection is provided for your tools with the heavy duty tumbler lock and positive 3-way locking system. Drawer runners are non-spill type and permit full opening for convenient tool selection. Heavy duty skid rails reinforce the bottom making the chest easier to slide and safer to move. Comfort grip trunk-type carrying handles. Top compartment is fitted for optional MB-51V Tote Tray.

**SPECIFICATIONS**

**Overall Dimensions:** 26" L x 12 $\frac{3}{32}$ " W x 14 $\frac{3}{8}$ " H.  
**Top Compartment:** 25 $\frac{7}{8}$ " x 11 $\frac{1}{16}$ " x 4 $\frac{3}{8}$ " high.  
**Inside Area:** 3550 cu. inches, 2.054 cu. feet.  
**Shipping weight** 74 pounds, **Net weight** 68 pounds.

**A MB-208V EIGHT DRAWER TOOL CHEST**

Three top left drawers	5 $\frac{3}{4}$ x 10 $\frac{1}{2}$ x 1 $\frac{1}{16}$ high
Top center drawer	10 $\frac{3}{8}$ x 10 $\frac{1}{2}$ x 1 $\frac{1}{16}$ high
Second center drawer	10 $\frac{3}{8}$ x 10 $\frac{1}{2}$ x 2 high
Top right drawer	5 $\frac{3}{4}$ x 10 $\frac{1}{2}$ x 3 $\frac{1}{16}$ high
Next to bottom drawer	23 $\frac{7}{8}$ x 10 $\frac{1}{2}$ x 2 high
Bottom drawer	23 $\frac{7}{8}$ x 10 $\frac{1}{2}$ x 2 $\frac{7}{8}$ high

**B MB-210V TEN DRAWER TOOL CHEST**

Top outside drawers	5 $\frac{3}{4}$ x 10 $\frac{1}{2}$ x 1 $\frac{1}{16}$ high
Top center drawer	10 $\frac{3}{8}$ x 10 $\frac{1}{2}$ x 1 $\frac{1}{16}$ high
Second center drawer	10 $\frac{3}{8}$ x 10 $\frac{1}{2}$ x 2 high
Next to bottom drawer	23 $\frac{7}{8}$ x 10 $\frac{1}{2}$ x 2 high
Bottom drawer	23 $\frac{7}{8}$ x 10 $\frac{1}{2}$ x 2 $\frac{7}{8}$ high

**C MB-218V EIGHT DRAWER TOOL CHEST**

Top outside drawers	5 $\frac{3}{4}$ x 10 $\frac{1}{2}$ x 1 $\frac{1}{16}$ high
Second outside drawers	5 $\frac{3}{4}$ x 10 $\frac{1}{2}$ x 2 high
Top center drawer	10 $\frac{3}{8}$ x 10 $\frac{1}{2}$ x 1 $\frac{1}{16}$ high
Second center drawer	10 $\frac{3}{8}$ x 10 $\frac{1}{2}$ x 2 high
Next to bottom drawer	23 $\frac{7}{8}$ x 10 $\frac{1}{2}$ x 2 high
Bottom drawer	23 $\frac{7}{8}$ x 10 $\frac{1}{2}$ x 2 $\frac{7}{8}$ high

**D MB-206V SIX DRAWER TOOL CHEST**

The sturdy drawer arrangement is fixed, and each drawer is mounted on heavy-duty drawer slides. Drawer pulls are continuous. Top accepts MB-51V Tote Tray.

**SPECIFICATIONS**

**Overall Dimensions:** 26" L x 12 $\frac{3}{32}$ " W x 14 $\frac{3}{8}$ " H.  
**Top Compartment:** 25 $\frac{7}{8}$ " x 11 $\frac{1}{16}$ " x 4 $\frac{3}{8}$ " high.  
**Inside Area:** 3550 cu. inches, 2.054 cu. feet.  
**Shipping weight** 70 pounds, **Net weight** 64 pounds.

Top outside drawers	5 $\frac{3}{4}$ x 10 $\frac{1}{2}$ x 1 $\frac{1}{16}$ high
Top center drawer	10 $\frac{3}{8}$ x 10 $\frac{1}{2}$ x 1 $\frac{1}{16}$ high
Second & third drawers	23 $\frac{7}{8}$ x 10 $\frac{1}{2}$ x 2 high
Bottom drawer	23 $\frac{7}{8}$ x 10 $\frac{1}{2}$ x 2 $\frac{7}{8}$ high

**E F TOOL CHESTS**

These two Chests offer 50% more capacity than the Chests described at A, B, C and D, but its base dimensions allow it to fit with any combination of Mobile Roller Cabinets and intermediate Add-A-Chests. Top is fitted for optional MB-51V Tote Tray.

**SPECIFICATIONS**

**Overall Dimensions:** 26" L x 14 $\frac{3}{4}$ " W x 17 $\frac{3}{4}$ " H.  
**Top Compartment:** 25 $\frac{7}{8}$ " x 14" x 4 $\frac{3}{8}$ " high.  
**Inside Area:** 5110 cu. inches, 2.957 cu. feet.  
**Shipping weight** 101 pounds, **Net weight** 89 pounds.

**E MB-228V EIGHT DRAWER TOOL CHEST**

Top two drawers	7 x 13 $\frac{1}{16}$ x 1 $\frac{1}{16}$ high
Second two drawers	7 x 13 $\frac{1}{16}$ x 2 $\frac{1}{16}$ high
Top right drawer	7 x 13 $\frac{1}{16}$ x 3 $\frac{7}{8}$ high
Third & fourth drawers	23 $\frac{1}{8}$ x 13 $\frac{1}{16}$ x 2 $\frac{1}{16}$ high
Bottom drawer	23 $\frac{1}{8}$ x 13 $\frac{1}{16}$ x 3 $\frac{7}{8}$ high

**F MB-229V NINE DRAWER TOOL CHEST**

Top row drawers	7 x 13 $\frac{1}{16}$ x 1 $\frac{1}{16}$ high
Second row drawers	7 x 13 $\frac{1}{16}$ x 2 $\frac{1}{16}$ high
Third & fourth drawers	23 $\frac{1}{8}$ x 13 $\frac{1}{16}$ x 2 $\frac{1}{16}$ high
Bottom drawer	23 $\frac{1}{8}$ x 13 $\frac{1}{16}$ x 3 $\frac{7}{8}$ high

**G MB-51V TOTE TRAY**

Designed to fit the top compartment of all VULCAN Tool Chests. The tubular carrying handle is formed for strength and hand comfort. Inside dimensions, 20 $\frac{3}{16}$ " long x 8" wide x 2 $\frac{3}{4}$ " high. A separate socket compartment extends the entire width. Net weight each, 4 pounds.

**H I J ADD-A-CHESTS**

Rugged construction with 20 gauge (.035") steel throughout. Locking the top drawer positively locks all drawers at the back on both sides of the drawer. Designed to increase storage capacity by mounting on any Roller Cabinet and stacking with MB-206V, MB-208V, MB-210V, MB-218V, MB-228V and MB-229V. All three of these chests contain about 50% more available cubic space than most other Intermediate Chests because the distance is greater from front to back. All drawers will open to this full 13 $\frac{1}{16}$ " depth.

**SPECIFICATIONS**

**Overall Dimensions:** 26 $\frac{1}{16}$ " L x 14 $\frac{3}{4}$ " W x 8 $\frac{1}{8}$ " H.  
**Inside Area:** 2250 cu. inches, 1.302 cu. feet.  
**Shipping weight** 46 pounds, **Net weight** 41 pounds.

**H MB-412V TWO DRAWER ADD-A-CHEST**

Top drawer, locking	24 x 13 $\frac{1}{16}$ x 3 $\frac{3}{4}$ high
Bottom drawer	24 x 13 $\frac{1}{16}$ x 3 $\frac{3}{4}$ high

**I MB-413V THREE DRAWER ADD-A-CHEST**

Top drawer, locking	24 x 13 $\frac{1}{16}$ x 1 $\frac{5}{8}$ high
Middle drawer	24 x 13 $\frac{1}{16}$ x 1 $\frac{5}{8}$ high
Bottom drawer	24 x 13 $\frac{1}{16}$ x 3 $\frac{3}{4}$ high

**J MB-414V FOUR DRAWER ADD-A-CHEST**

Top drawer, locking	24 x 13 $\frac{1}{16}$ x 1 $\frac{5}{8}$ high
Three lower drawers	24 x 13 $\frac{1}{16}$ x 1 $\frac{5}{8}$ high



**A B C MOBILE CABINETS**

- MORE THAN 5-1/2 CUBIC FEET OF STORAGE SPACE
- CHIP RESISTANT RED BAKED ENAMEL FINISH
- HEAVY DUTY, EASY ROLLING, HIGH IMPACT 5" CASTERS
- INCLUDES 4 SIDE RAILS FOR FUTURE DRAWER ADDITION
- CONTINUOUS DRAWER PULLS FOR EASY ONE HAND OPENING

The most popular size Roller Cabinet for all mechanics. The top surface is 27 $\frac{3}{8}$ " long x 18 $\frac{1}{8}$ " wide and rigidly supports almost any Tool Chest, or Chest and Intermediate Chest combination. One heavy duty tumbler lock securely locks the entire unit. All of the drawers are solidly held at the back on both sides so that it is impossible for a screw driver to be used to force entry into the Cabinet. Furthermore, a drop lip on the bottom drawer covers the latch and the drop front to the lower storage area adding still more security protection.

This basic design is available in 3, 4 and 5 drawer models as illustrated. Also, it is easy and inexpensive to change your present 3 drawers to 4, or 4 drawers to 5. Ask your VULCAN Dealer.

**SPECIFICATIONS**

Overall Dimensions: 27 $\frac{3}{8}$ " long x 18 $\frac{1}{8}$ " wide x 32 $\frac{3}{8}$ " high with casters.  
Bottom Compartment: 27 $\frac{1}{8}$ " L x 17 $\frac{3}{8}$ " W x 12 $\frac{3}{8}$ " high.  
Inside Area: 9830 cubic inches, 5.688 cubic feet.  
Shipping weight 116 pounds, Net weight 99 pounds.

**A MB-313V THREE DRAWER MOBILE CABINET**

Top two drawers	22 $\frac{3}{8}$ " x 17 x 4 $\frac{1}{4}$ " high
Bottom drawer, locking	22 $\frac{3}{8}$ " x 17 x 4 $\frac{1}{4}$ " high

**B MB-314V FOUR DRAWER MOBILE CABINET**

Top two drawers	22 $\frac{3}{8}$ " x 17 x 2 $\frac{1}{8}$ " high
Third drawer	22 $\frac{3}{8}$ " x 17 x 4 $\frac{1}{4}$ " high
Bottom drawer, locking	22 $\frac{3}{8}$ " x 17 x 4 $\frac{1}{4}$ " high

**C MB-315V FIVE DRAWER MOBILE CABINET**

Top four drawers	22 $\frac{3}{8}$ " x 17 x 2 $\frac{1}{8}$ " high
Bottom drawer, locking	22 $\frac{3}{8}$ " x 17 x 4 $\frac{1}{4}$ " high

**D E MOBILE CABINETS**

Just one heavy duty tumbler lock securely locks the entire unit for maximum protection. Heavy duty construction throughout to withstand years of rugged conditions. Moves easily on 4" diameter high impact casters, 2 are stationary and 2 are full swivel with brakes. The roomy bottom compartment will easily handle your bulk storage, or you may add one, two, four or five additional drawers. The wide drawers easily receive tools up to 24" in length. All surfaces are bonderized for added life and rust protection and finished with red baked on enamel.

**SPECIFICATIONS**

Overall Dimensions: 29 $\frac{1}{4}$ " long x 18 $\frac{1}{2}$ " wide x 37" high with casters.  
Bottom Compartment: 29 $\frac{1}{4}$ " L x 17 $\frac{3}{4}$ " W x 15 $\frac{1}{4}$ " high.  
Inside Area: 12760 cubic inches, 7.384 cubic feet.  
Shipping weight 147 pounds, Net weight 138 pounds.

**D MB-304V FOUR DRAWER MOBILE CABINET**

Top two drawers	24 $\frac{1}{8}$ " x 17 $\frac{3}{8}$ " x 2 $\frac{1}{4}$ " high
Third drawer	24 $\frac{1}{8}$ " x 17 $\frac{3}{8}$ " x 3 $\frac{1}{4}$ " high
Bottom drawer, locking	24 $\frac{1}{8}$ " x 17 $\frac{3}{8}$ " x 4 $\frac{3}{8}$ " high

**E MB-305V FIVE DRAWER MOBILE CABINET**

Top two drawers	24 $\frac{1}{8}$ " x 17 $\frac{3}{8}$ " x 2 $\frac{1}{4}$ " high
Third and fourth drawer	24 $\frac{1}{8}$ " x 17 $\frac{3}{8}$ " x 2 $\frac{5}{8}$ " high
Bottom drawer, locking	24 $\frac{1}{8}$ " x 17 $\frac{3}{8}$ " x 2 $\frac{5}{8}$ " high

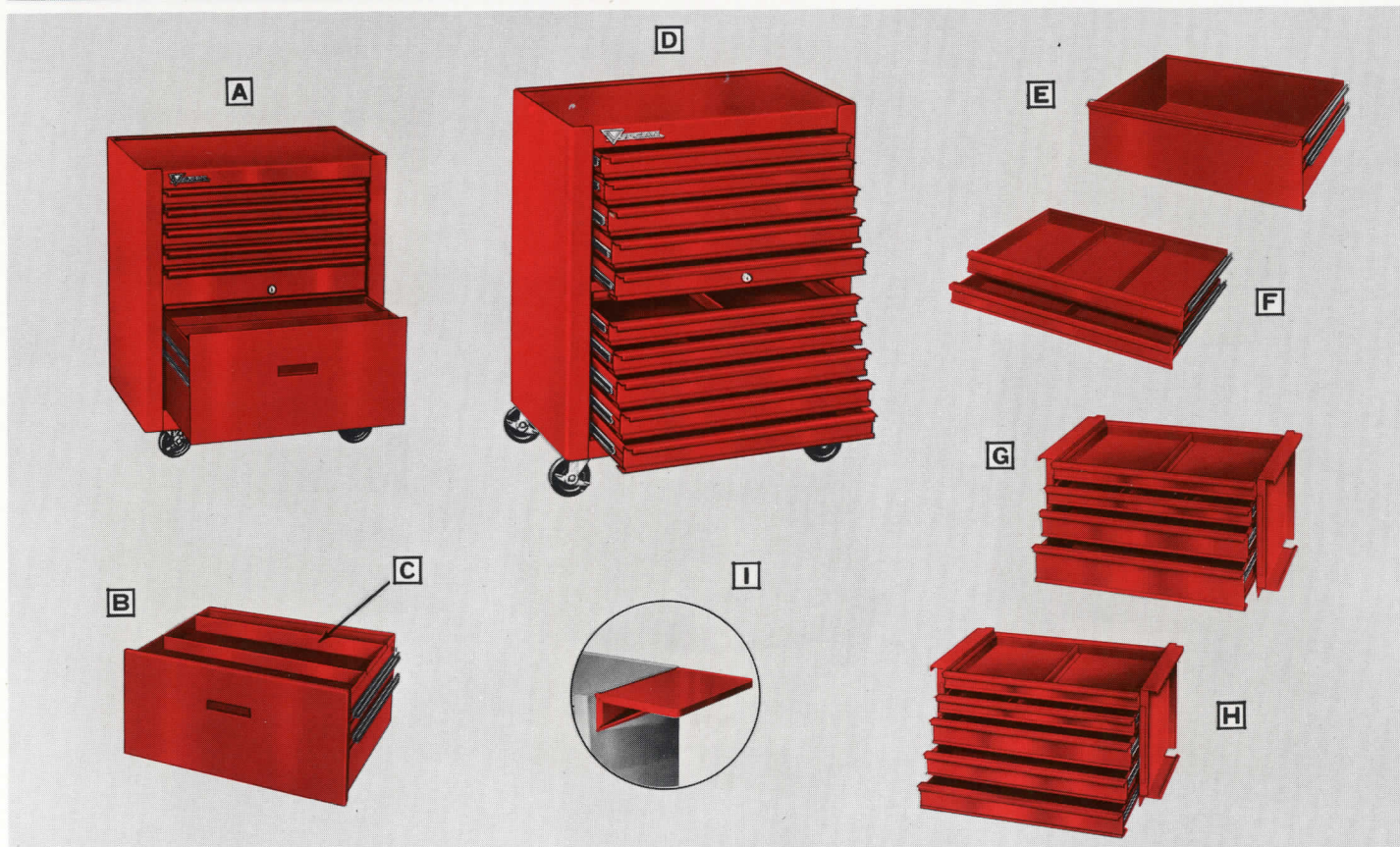
**F OPEN ROLLER STAND**

A very useful open type Mobile Stand for garage, shop and school. Vocational Schools and Training Centers find this unit particularly adaptable to their requirements for those tools which are not kept under lock and key after each use. The stand is easily moved from one location to another, and the foot locks on two casters secure it in the desired position. The top surface has a lip at each end and the corners so masonite or plywood may be added to make an ideal work surface.

**SPECIFICATIONS**

Overall Dimensions: 26 $\frac{1}{4}$ " long x 18" wide x 31 $\frac{1}{4}$ " high with casters.  
Shipping weight 68 pounds, Net weight 60 pounds.





- A MB-334V FOUR DRAWER MOBILE CABINET**  
**MB-335V FIVE DRAWER MOBILE CABINET**  
**MB-336V SIX DRAWER MOBILE CABINET**

These Roller Cabinets are equipped with a large drawer in the lower storage area making it easy for you to locate the bulky items that will not fit in the usual drawers found in Chests and Cabinets. Actually, these Cabinets are MB-313V, MB-314V and MB-315V described and illustrated on page 22 with the addition of MB-411V Drawer and MB-55V Tray described below.

**MB-334V FOUR DRAWER MOBILE CABINET**

Top two drawers	22 $\frac{3}{8}$ x 17 x 4 $\frac{1}{4}$ high
Third drawer, locking	22 $\frac{3}{8}$ x 17 x 4 $\frac{1}{4}$ high
Bottom drawer with tray	22 $\frac{1}{2}$ x 17 $\frac{3}{4}$ x 9 high

**MB-335V FIVE DRAWER MOBILE CABINET**

Top two drawers	22 $\frac{3}{8}$ x 17 x 2 $\frac{1}{8}$ high
Third drawer	22 $\frac{3}{8}$ x 17 x 4 $\frac{1}{4}$ high
Fourth drawer, locking	22 $\frac{3}{8}$ x 17 x 4 $\frac{1}{4}$ high
Bottom drawer with tray	22 $\frac{1}{2}$ x 17 $\frac{3}{4}$ x 9 high

**MB-336V SIX DRAWER MOBILE CABINET**

Top four drawers	22 $\frac{3}{8}$ x 17 x 2 $\frac{1}{8}$ high
Fifth drawer, locking	22 $\frac{3}{8}$ x 17 x 4 $\frac{1}{4}$ high
Bottom drawer with tray	22 $\frac{1}{2}$ x 17 $\frac{3}{4}$ x 9 high

**B MB-411V ADD-A-DRAWER FOR MB-313V, MB-314V, MB-315V**

A drawer addition that may be added to the bulk storage area of MB-313V, MB-314V and MB-315V. This is a very popular and useful addition as it allows you to quickly locate the bulky items that are too large for the normal drawer sizes. This drawer also pulls all the way out for easy visibility and access. The MB-55V Sliding Tray is optional and should be ordered separately. Inside drawer dimensions are 22 $\frac{1}{2}$ " long x 17 $\frac{3}{4}$ " wide x 9" high.

**C MB-55V SLIDING TRAY FOR MB-411V**

Sturdy lips at either end suspend the tray on sides of MB-411V drawer. These lips are formed so that the tray may be slid from front to back or lifted out for complete access in the drawer.

**D MB-305V FIVE DRAWER MOBILE CABINET**  
**MB-405V FIVE DRAWER ADD-A-SECTION**

The illustration at "D" represents only one of a combination of drawer arrangements that are possible with either MB-304V or MB-305V and the Add-A-Drawer and Add-A-Section units at "E", "F", "G" and "H". Select the arrangement to suit your requirements.

**E MB-401V ADD-A-DRAWER**

One single drawer of "man sized" proportion and strength to protect your large tools and equipment. Glides smoothly on four slides for easier operation and stability.

Single large drawer	24 $\frac{1}{8}$ x 17 $\frac{3}{8}$ x 7 high
---------------------	--

**F MB-402V ADD-TWO-DRAWERS**

Two drawers providing 1885 cubic inches of additional drawer space for MB-304V and MB-305V. May be immediately inserted into either Cabinet. Slides are already provided in Cabinet construction.

Both drawers	24 $\frac{1}{8}$ x 17 $\frac{3}{8}$ x 2 $\frac{1}{4}$ high
--------------	--

**G MB-404V FOUR DRAWER ADD-A-SECTION**

Add 4 drawers and 5180 cubic inches of drawer storage capacity. Unit installs quickly in MB-304V or MB-305V.

Two top drawers	24 $\frac{1}{8}$ x 17 $\frac{3}{8}$ x 2 $\frac{1}{4}$ high
Third drawer	24 $\frac{1}{8}$ x 17 $\frac{3}{8}$ x 3 $\frac{1}{4}$ high
Bottom drawer	24 $\frac{1}{8}$ x 17 $\frac{3}{8}$ x 4 $\frac{3}{4}$ high

**H MB-405V FIVE DRAWER ADD-A-SECTION**

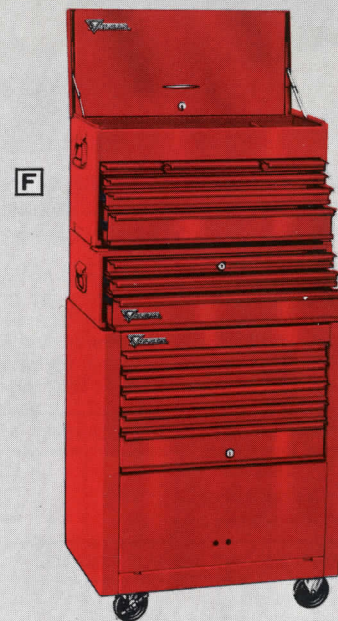
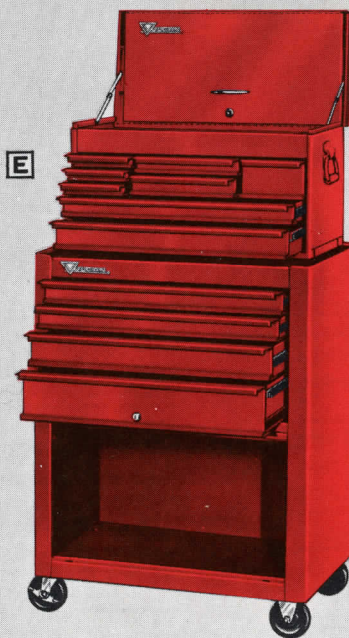
This unit is shown completely assembled in illustration "D" on this page. The 5 drawers provide 5180 cubic inches of additional area for better arrangement and easier location of your tools.

Two top drawers	24 $\frac{1}{8}$ x 17 $\frac{3}{8}$ x 2 $\frac{1}{4}$ high
Three bottom drawers	24 $\frac{1}{8}$ x 17 $\frac{3}{8}$ x 2 $\frac{5}{8}$ high

**I MB-440V FOLDING SHELF**

A sturdy shelf, 15 $\frac{1}{2}$ " long x 12" wide that lies flat against the side of the cabinet when not in use. Made of 16 gauge (.059") steel. Will attach easily to any Roller Cabinet. Red enamel finish.





## A FEW OF THE MANY WORKSHOP COMBINATIONS AVAILABLE WITH VULCAN CHESTS AND CABINETS

**[A] MB-206V, MB-313V**

A very popular Combination Chest and Roller Cabinet providing 7,742 cubic inches of storage space. More space may be added later by the addition of any of the popular 2, 3 and 4 drawer Add-A-Chests which are fully described and illustrated on page 20. Casters are 4" diameter.

**[B] MB-208V, MB-305V, MB-404V**

Seventeen drawers arranged in nine cubic feet of solidly constructed, heavy gauge, double reinforced steel. Positive locking throughout provides you with maximum protection and safety for your tools. If you wish, both units may be keyed alike. Casters are 4" diameter.

**[C] MB-229V, MB-314V**

Seven full width drawers and six small drawers for the ultimate in convenience and safe keeping of your valuable tools. Thirteen drawers plus the spacious bottom compartment add up to 8,645 cubic inches of tool storage space. An intermediate unit may be added later if desired. 4" casters.

**[D] MB-208V, MB-413V, MB-315V**

Sixteen drawers conveniently arranged for greatest service and usefulness. Ten drawers are full width and six drawers are arranged for small tools. One of these drawers is  $3\frac{1}{2}$ " high for easy drill bit storage. 9,044 cubic inches of storage space. Heavy duty 4" diameter casters.

**[E] MB-208V, MB-304V**

Twelve drawers of which six are full width and six are arranged for storage of smaller precision tools. The drawers, together with the large bulk storage area below, provide 9,438 cubic inches of space. Additional area may be added with Add-A-Chest units on page 20. 4" dia. casters.

**[F] MB-206V, MB-413V, MB-315V**

The ever popular MB-206V six drawer Chest and MB-315V five drawer Roller Cabinet combined with MB-413V Intermediate Chest add up to fourteen drawers. A total of 9,044 cubic inches of solid, good looking storage space. 1, 2, 4 or 5 additional drawers may be added below. 4" casters.





**FINEST  
EQUIPMENT  
AT  
REASONABLE  
COST**

#### **A MB-326V DELUXE ROLLER STAND**

- SECURELY CLOSES WITH STEEL SHUTTER DROP FRONT
- PILFER PROOF LOCKING MECHANISM
- 5" EXTRA HEAVY DUTY HIGH IMPACT CASTERS
- CHROME PLATED END HANDLES FORMED TO RECEIVE 25' EXTENSION CORD

Heavier construction with rugged reinforcing at all stress points insures greatest Cabinet life. The top working area is 34" x 18" and is constructed of tempered masonite over heavy reinforced steel sub top. Rolling steel shutter positively closes entire stand, yet rolls out of the way when open. Heavy duty tumbler lock actuates two large rods engaging each side of stand making unit pilfer proof. Extra duty high impact casters are 5" diameter.

#### **SPECIFICATIONS**

Outside Dimensions: 34 $\frac{3}{4}$ " wide x 18 $\frac{3}{4}$ " deep x 37 $\frac{1}{4}$ " high with casters.  
Shipping weight 183 pounds; Net weight 170 pounds.  
Available area: 12800 cubic inches, 7.425 cubic feet.

Top left drawer (#20)	8 $\frac{1}{4}$ " x 14 $\frac{5}{8}$ " x 2" high
Top center drawer (#21)	8 $\frac{1}{4}$ " x 14 $\frac{5}{8}$ " x 2" high
Top right drawer (#22)	8 $\frac{1}{4}$ " x 14 $\frac{5}{8}$ " x 2" high
Second drawer (#23)	26 $\frac{3}{4}$ " x 14 $\frac{5}{8}$ " x 2" high
Third drawer (#24)	26 $\frac{3}{4}$ " x 14 $\frac{5}{8}$ " x 4 $\frac{1}{8}$ " high
Bottom drawer (#25)	26 $\frac{3}{4}$ " x 14 $\frac{5}{8}$ " x 4 $\frac{1}{8}$ " high
Bottom compartment	34" x 17 $\frac{1}{4}$ " x 13 $\frac{3}{4}$ " high

#### **B MB-426V ADD-A-SECTION**

Three additional drawers as shown at "D" may be easily installed at any time. This unit increases the drawer capacity of MB-326V by 4350 cubic inches (2.52 cubic feet). Drawers are identical to lower three drawers of MB-326V. Shipping weight 49 pounds, net weight 41 pounds.

Top drawer (#23)	26 $\frac{3}{4}$ " x 14 $\frac{5}{8}$ " x 2" high
Center drawer (#24)	26 $\frac{3}{4}$ " x 14 $\frac{5}{8}$ " x 4 $\frac{1}{8}$ " high
Bottom drawer (#25)	26 $\frac{3}{4}$ " x 14 $\frac{5}{8}$ " x 4 $\frac{1}{8}$ " high

#### **C MB-436V ELECTRICAL COMPONENTS**

Includes junction box and lamp as illustrated. Junction box has Hubbell quarter turn locking plug for input wire, but does not include wire. Lamp will receive 100 watt incandescent bulb.

#### **D MB-326V DELUXE ROLLER STAND WITH**

#### **MB-426V ADD-A-SECTION & MB-436V ELECTRICAL COMPONENTS**

A Mobile Work Shop on Wheels. Nine drawers providing 9200 cubic inches (5.325 cubic feet) of space for your valued tools. A masterpiece of craftsmanship for the man who wants the finest. The individual units that comprise this complete work shop are described at "A", "B" and "C". Each unit is shipped separately and may be quickly and easily installed in the field. Complete shipping weight as illustrated is 238 pounds, net weight 214 lbs.

#### **E MB-324V EXTRA HEAVY DUTY ROLLER CABINET**

Extra drawer capacity, extra large 5" diameter casters and extra reinforcing at all stress points are combined to make this the most versatile stand available. Assembled with the MB-227V Chest as shown at "F", the combined units provide ten cubic feet of storage space and complete safety for your tools. The locking door handle positively locks doors at top and bottom. Drawer slides are non-spill type and allow opening to full depth for complete visibility. All surfaces are bonderized to resist rusting and chipping, then finished in red baked on enamel.

#### **SPECIFICATIONS**

Outside Dimensions: 32 $\frac{7}{8}$ " wide x 17 $\frac{1}{4}$ " deep x 32 $\frac{1}{4}$ " high with casters.  
Shipping weight 154 pounds; Net weight 140 pounds.  
Available area: 11650 cubic inches, 6.742 cubic feet.

Top left drawer (#20)	11 $\frac{7}{8}$ " x 15 $\frac{1}{8}$ " x 2 $\frac{5}{8}$ " high
Top right drawer (#21)	11 $\frac{7}{8}$ " x 15 $\frac{1}{8}$ " x 2 $\frac{5}{8}$ " high
Second drawer (#23)	24 $\frac{3}{4}$ " x 15 $\frac{1}{8}$ " x 4 $\frac{1}{2}$ " high
Bottom drawer (#24)	24 $\frac{3}{4}$ " x 15 $\frac{1}{8}$ " x 6 $\frac{1}{2}$ " high
Bottom compartment	32 $\frac{3}{4}$ " x 16 $\frac{3}{4}$ " x 11" high

#### **F MB-227V SEVEN DRAWER HEAVY DUTY TOOL CHEST WITH MB-324V HEAVY DUTY ROLLER CABINET**

Here is a combination Chest and Roller Cabinet arrangement for the man who wants the finest equipment and greatest protection for the valued tools of his trade. Both units are designed and constructed to give you the greatest possible room and mobility without sacrificing anything in strength and security. There is more than ten cubic feet of storage space that may be easily rolled from one location to another on large 5" heavy duty high impact casters. Two casters are fixed, the other two casters swivel and are equipped with foot locks so the assembly will stay where you want it. Eleven drawers are equipped with heavily chrome plated drawer pulls. The drawers glide open to their full depth on smooth running heavy duty slides. MB-227V Chest is described on pg. 21.





### A COMPLETE SERVICE SHOP ON WHEELS

MB-206V  
6 DRAWER  
CHEST

MB-413V  
3 DRAWER  
INTERMEDIATE  
CHEST

MB-313V  
3 DRAWER  
MOBILE  
CABINET  
WITH 4 INCH  
HIGH-IMPACT  
CASTERS

#### LX-227B

227 TOOLS WITH MB-206V CHEST,  
MB-413V INTERMEDIATE CHEST AND  
MB-313V MOBILE CABINET

#### LX-227BT

SAME AS ABOVE WITH MB-51V TRAY

#### LX-227

227 Tools without Chests & Cabinets

A complete Combination Tool Set for the mechanic who desires a selection of fine tools to increase his earning power. The set is void of those tools which are seldom used. Each tool has been selected to complete a set that will prove most adequate for all daily work. The listing on this page and the next gives a complete breakdown of the 227 tools which comprise this Mobile Workshop. Here is a set for truck, car, aircraft, marine, diesel, machine and heavy equipment repair and maintenance. The MB-206V, MB-413V and MB-313V Chests are described on pages 19 thru 25.

#### LX-227B-1

227 TOOLS WITH MB-206V CHEST  
and MB-313V MOBILE CABINET

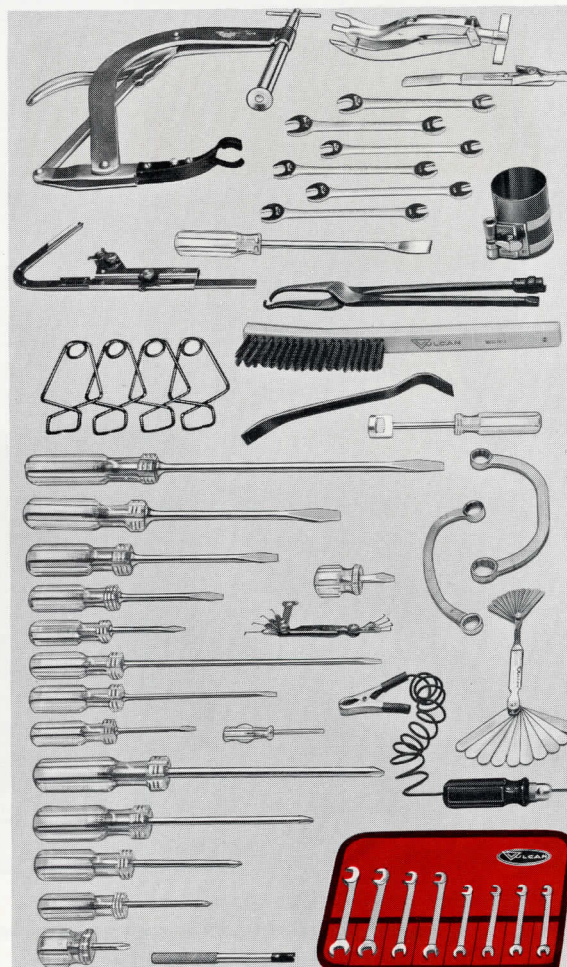
#### LX-227BT-1

SAME AS ABOVE WITH MB-51V TRAY



MB-206V

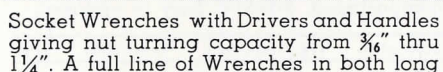
MB-313V



Listed below and on page 27 (right) is the complete spread of 227 tools. Specifications may be found at the page number references.

Stock No.	Description	Pg.	Stock No.	Description	Pg.
<b>1/4" DRIVE TOOLS</b>			<b>3/8" DRIVE TOOLS</b>		
M-606	Socket, $\frac{3}{16}$ " 6 Pt...	3	BD-1216	Dp. Skt., $\frac{1}{2}$ " 12 Pt.	7
M-607	Socket, $\frac{7}{32}$ " 6 Pt...	3	BD-1218	Dp. Skt., $\frac{5}{16}$ " 12 Pt.	7
M-608	Socket, $\frac{1}{4}$ " 6 Pt...	3	BD-1220	Dp. Skt., $\frac{3}{8}$ " 12 Pt.	7
M-609	Socket, $\frac{9}{32}$ " 6 Pt...	3	BD-1222	Dp. Skt., $\frac{1}{2}$ " 12 Pt.	7
M-610	Socket, $\frac{5}{16}$ " 6 Pt...	3	BD-1224	Dp. Skt., $\frac{3}{4}$ " 12 Pt.	7
M-611	Socket, $\frac{11}{32}$ " 6 Pt...	3	BD-1226	Dp. Skt., $\frac{13}{16}$ " 12 Pt.	7
M-612	Socket, $\frac{3}{8}$ " 6 Pt...	3	BD-1228	Dp. Skt., $\frac{7}{8}$ " 12 Pt.	7
M-614	Socket, $\frac{7}{16}$ " 6 Pt...	3	BU-1212	Univ., $\frac{3}{8}$ " 12 Pt...	7
M-616	Socket, $\frac{1}{2}$ " 6 Pt...	3	BU-1214	Univ., $\frac{1}{2}$ " 12 Pt...	7
M-42	Flex Handle .....	3	BU-1216	Univ., $\frac{5}{8}$ " 12 Pt...	7
M-51	Ratchet .....	3	BU-1218	Univ., $\frac{3}{4}$ " 12 Pt...	7
M-20A	Sliding T Hdl. ....	3	BU-1220	Univ., $\frac{7}{8}$ " 12 Pt...	7
M-102	Extension, 2" .....	3	BU-1222	Univ., $\frac{1}{4}$ " 12 Pt...	7
M-115	Extension, 6" .....	3	BU-1224	Univ., $\frac{3}{4}$ " 12 Pt...	7
M-106	Spin Handle .....	3	B-409	Socket, $\frac{3}{32}$ " 4 Pt...	7
M-140	Univ. Joint .....	3	BD-814	Dp. Skt., $\frac{1}{16}$ " 8 Pt...	7
MB-101	Mtl. Bx., $\frac{1}{4}$ " Tools	20	BD-816	Dp. Skt., $\frac{1}{8}$ " 8 Pt...	7
<b>3/8" DRIVE TOOLS</b>			BD-818	Dp. Skt., $\frac{3}{16}$ " 8 Pt...	7
B-1210	Socket, $\frac{5}{16}$ " 12 Pt...	7	BD-820	Dp. Skt., $\frac{5}{8}$ " 8 Pt...	7
B-1212	Socket, $\frac{3}{8}$ " 12 Pt...	7	B-15	Speeder .....	6
B-1214	Socket, $\frac{1}{2}$ " 12 Pt...	7	B-20A	Sliding T Hdl. ....	6
B-1216	Socket, $\frac{1}{2}$ " 12 Pt...	7	B-40	Flex Handle .....	6
B-1218	Socket, $\frac{5}{16}$ " 12 Pt...	7	B-52	Ratchet .....	6
B-1220	Socket, $\frac{9}{16}$ " 12 Pt...	7	B-106	Spin Handle .....	6
B-1222	Socket, $\frac{11}{16}$ " 12 Pt...	7	B-70	Ratchet Spinner ....	6
B-1224	Socket, $\frac{3}{4}$ " 12 Pt...	7	B-140	Univ. Joint .....	6
B-1226	Socket, $\frac{13}{16}$ " 12 Pt...	7	B-108	Extension, 3" .....	6
B-1228	Socket, $\frac{7}{8}$ " 12 Pt...	7	B-110	Extension, $5\frac{1}{2}$ " .....	6
BD-1212	Dp. Skt., $\frac{3}{8}$ " 12 Pt.	7	B-115	Extension, $10\frac{1}{2}$ " .....	6
BD-1214	Dp. Skt., $\frac{1}{2}$ " 12 Pt.	7	BFE-8	Flex. Ext., 8" .....	6

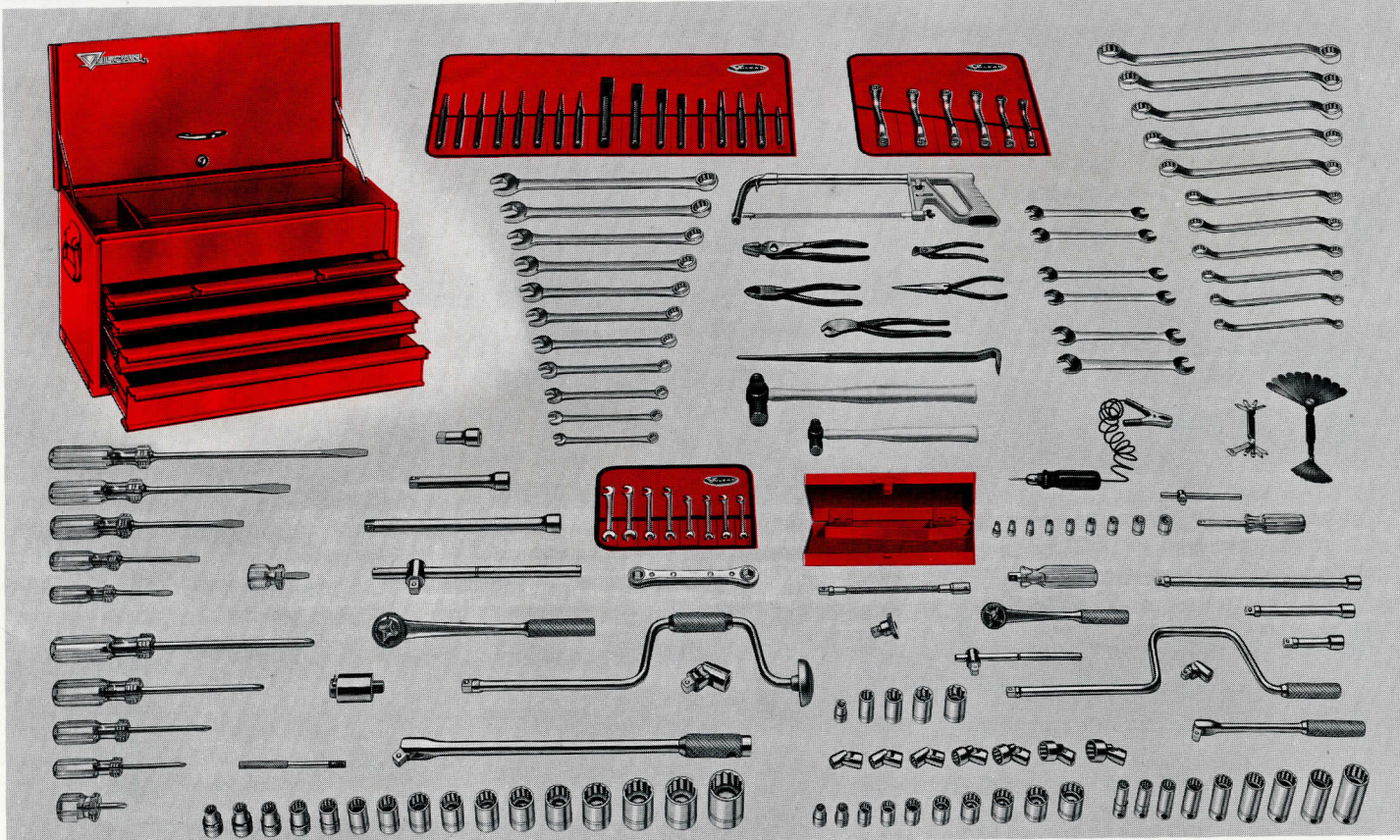




selection of the most needed miscellaneous tools complete this money making set. Design, quality and "feel" in each piece.

27



**LX-162B GENERAL SERVICE SET — 162 Tools in MB-206V, 6 Drawer Metal Chest****LX-162BT GENERAL SERVICE SET — 162 Tools in MB-206V and MB-51V Tray****LX-162 GENERAL SERVICE SET — 162 Tools without Metal Chest or Tray**

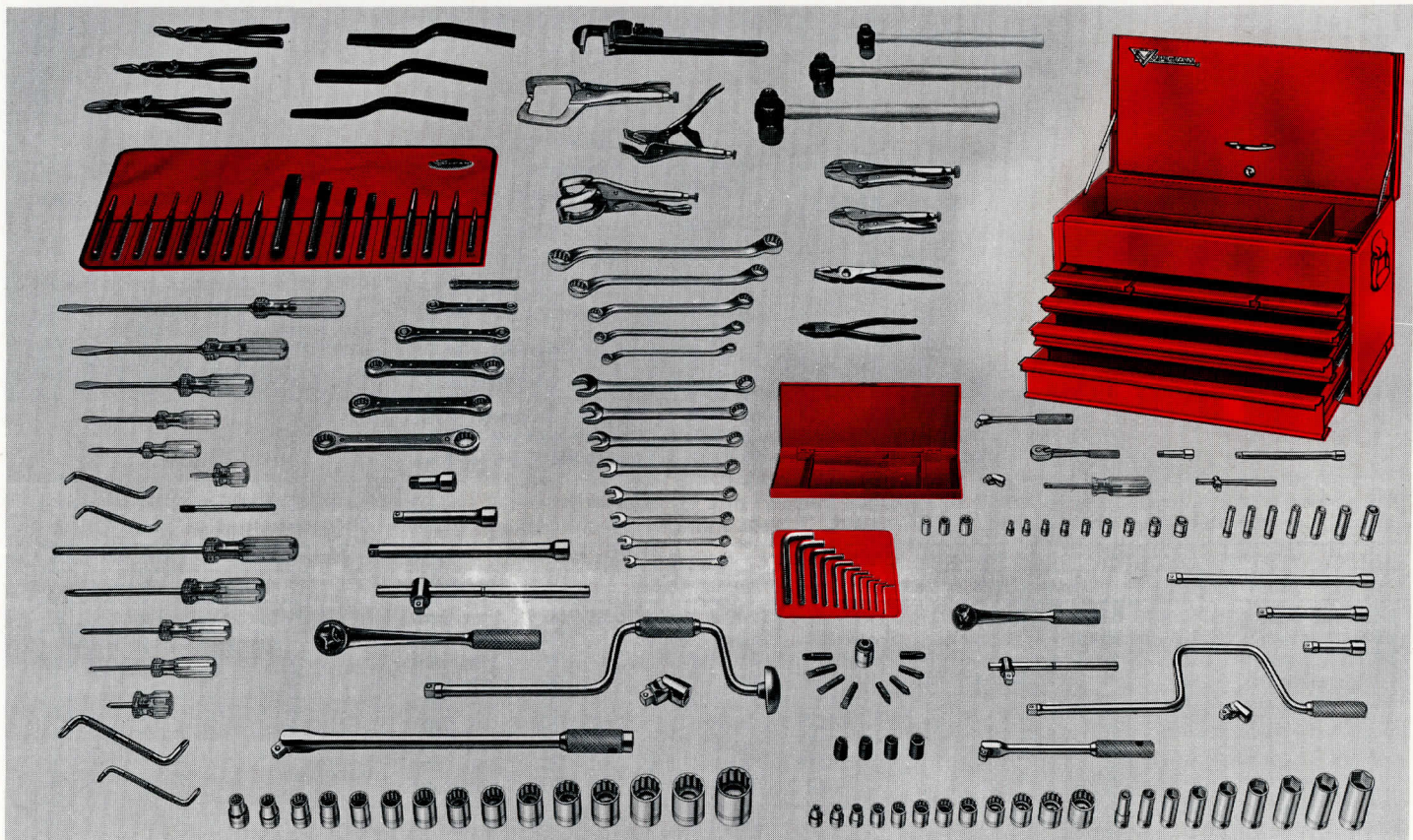
The selection of the 162 tools in this set provides you with the finest quality tools for general and all-around repair and

assembly. VULCAN tools are made of quality materials selected to give the most in tool life and satisfaction. The LX-162B

Set includes the MB-206V Cabinet with 6 smooth gliding drawers and spacious top compartment. MB-51V Tray is optional.

Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.
<b>1/4" DRIVE TOOLS</b>			<b>3/8" DRIVE TOOLS</b>			<b>1/2" DRIVE TOOLS</b>			<b>WRENCHES</b>			<b>PUNCHES and CHISELS</b>		
M-606	Socket, 3/16" 6 Pt.	3	BU-1216	Univ., 1/2" 12 Pt.	7	ST-1232	Socket, 1" 12 Pt.	11	1102	Ignition, 7/32"x1/4"	40	C-112	Flat Chisel, 3/8"	52
M-607	Socket, 3/16" 6 Pt.	3	BU-1218	Univ., 1/2" 12 Pt.	7	ST-1234	Socket, 1 1/16" 12 Pt.	11	1102A	Ignition, 1/4"x1/2"	40	C-116	Flat Chisel, 1/2"	52
M-608	Socket, 1/4" 6 Pt.	3	BU-1220	Univ., 3/8" 12 Pt.	7	ST-1236	Socket, 1 1/8" 12 Pt.	11	1103	Ignition, 3/32"x5/16"	40	C-120	Flat Chisel, 5/8"	52
M-609	Socket, 3/8" 6 Pt.	3	BU-1222	Univ., 1 1/16" 12 Pt.	7	ST-1240	Socket, 1 1/4" 12 Pt.	11	1103A	Ignition, 1/32"x3/8"	40	C-124	Flat Chisel, 3/4"	52
M-610	Socket, 3/8" 6 Pt.	3	BU-1224	Univ., 3/4" 12 Pt.	7	S-15	Speeder Handle	10	1104	Ignition, 1/32"x3/8"	40	C-128	Flat Chisel, 7/8"	52
M-611	Socket, 1 1/32" 6 Pt.	3	B-409	Socket, 3/32" 4 Pt.	7	S-20A	Sliding T Handle	10	1104A	Ignition, 3/8"x1 1/32"	40	P-103	Pin Punch, 3/8"	53
M-612	Socket, 3/8" 6 Pt.	3	BD-814	Dp. Skt., 7/16" 8 Pt.	7	S-41	Flex Handle	10	K-84	Kit for Ign. Wrs.	18	P-104	Pin Punch, 1/8"	53
M-614	Socket, 7/16" 6 Pt.	3	BD-816	Dp. Skt., 1/2" 8 Pt.	7	S-52	Ratchet, 11 1/4"	10	1160	Combination, 3/8"	32	P-106	Pin Punch, 3/16"	53
M-616	Socket, 1/2" 6 Pt.	3	BD-818	Dp. Skt., 9/16" 8 Pt.	7	S-55	Ratchet Adaptor	10	1161	Combination, 1/2"	32	P-108	Pin Punch, 1/4"	53
M-20A	Sliding T Handle	3	BD-820	Dp. Skt., 5/8" 8 Pt.	7	S-102P	Extension, 2 1/2"	10	1162	Combination, 1/2"	32	P-110	Pin Punch, 5/16"	53
M-106	Spin Handle	3	B-15	Speeder Handle	6	S-110P	Extension, 5 1/2"	10	1163	Combination, 5/8"	32	P-203	Start Punch, 3/32"	53
MB-101	Mtal. Bx., 1/4" Tools	21	B-20A	Sliding T Handle	6	S-115P	Extension, 10 1/2"	10	1164	Combination, 1 1/16"	32	P-204	Start Punch, 1/8"	53
<b>3/8" DRIVE TOOLS</b>			B-40	Flex Handle	6	S-140	Universal Joint	10	1165	Combination, 1 1/8"	32	P-206	Start Punch, 3/16"	53
B-1210	Socket, 5/16" 12 Pt.	7	B-52	Ratchet	6	<b>WRENCHES</b>			1166	Combination, 3/4"	32	P-208	Start Punch, 1/4"	53
B-1212	Socket, 3/8" 12 Pt.	7	B-70	Ratchet Spinner	6	8723	Long Box, 3/8"x7/16"	34	1167A	Combination, 1 3/16"	32	P-210	Start Punch, 3/16"	53
B-1214	Socket, 7/16" 12 Pt.	7	B-106	Spin Handle	6	8725	Long Box, 1/2"x1 1/2"	34	1167	Combination, 7/8"	32	P-412	Center Punch	53
B-1216	Socket, 1/2" 12 Pt.	7	B-108	Extension, 3"	6	8725B	Long Box, 1/2"x3/16"	34	1168	Combination, 1 1/8"	32	P-416	Center Punch	53
B-1218	Socket, 3/4" 12 Pt.	7	B-110	Extension, 5 1/2"	6	8727	Long Box, 3/16"x5/8"	34	1170	Combination, 1"	32	K-171	Kit for P & C Set	18
B-1220	Socket, 5/8" 12 Pt.	7	B-115	Extension, 10 1/2"	6	8727	Long Box, 3/16"x5/8"	34	1090(2)	Tappet, 7/16"x1/2"	37	<b>MISCELLANEOUS TOOLS</b>		
B-1222	Socket, 1 1/16" 12 Pt.	7	B-140	Universal Joint	6	8027	Lng. Bx., 1 1/32"x1 1/16"	34	1090D(2)	Tappet, 1/2"x3/16"	37	TU-12	Electric Tester	65
B-1224	Socket, 3/4" 12 Pt.	7	BFE-8	Flex Ext., 8"	6	8729	Long Box, 5/8"x3/4"	34	1092F(2)	Tappet, 5/8"x1 1/16"	37	C-715	Pry Bar, 15"	52
B-1226	Socket, 1 1/16" 12 Pt.	7	<b>1/2" DRIVE TOOLS</b>			8731A	Long Box, 3/4"x7/8"	34	<b>SCREW DRIVERS</b>			HS-4	Hack Saw	82
B-1228	Socket, 7/8" 12 Pt.	7	ST-1212	Socket, 3/8" 12 Pt.	11	8031B	Lng Bx., 2 3/32"x1 3/16"	34	SD-1	Slotted, 1/4"x1 1/2"	46	RB-1618	Ratchet, 1/2"x9/16"	32
BD-1212	Dp. Skt., 3/8" 12 Pt.	7	ST-1214	Socket, 7/16" 12 Pt.	11	8033C	Long Bx., 1 1/16"x1"	34	SD-3	Slotted, 3/32"x3"	46	BH-4	Hammer, 4 oz.	78
BD-1214	Dp. Skt., 1/2" 12 Pt.	7	ST-1216	Socket, 1/2" 12 Pt.	11	8037	Lg. Bx., 1 1/16"x1 1/4"	34	SD-4	Slotted, 1/4"x4"	46	BH-12	Hammer, 12 oz.	78
BD-1216	Dp. Skt., 1/2" 12 Pt.	7	ST-1218	Socket, 3/16" 12 Pt.	11	8723	Short Bx., 3/8"x7/16"	34	SD-6	Slotted, 3/16"x6"	46	FG-322	Feeler Gauge	61
BD-1218	Dp. Skt., 3/16" 12 Pt.	7	ST-1219	Socket, 1 1/32" 12 Pt.	11	8725	Short Bx., 7/16"x1 1/2"	34	SD-8	Slotted, 3/8"x8"	46	FG-409	Spk. Plug Ga.	61
BD-1220	Dp. Skt., 9/16" 12 Pt.	7	ST-1220	Socket, 5/8" 12 Pt.	11	8725B	Short Bx., 1/2"x9/16"	34	SD-12	Slotted, 3/8"x12"	46	PL-28	Plier, Sl. Jt., 8"	49
BD-1222	Dp. Skt., 1 1/16" 12 Pt.	7	ST-1222	Socket, 1 1/16" 12 Pt.	11	8727	Short Bx., 3/16"x5/8"	34	SDP-1	Phillips, #1x3"	46	PL-105	Pliers, Ign., 5"	49
BD-1224	Dp. Skt., 3/4" 12 Pt.	7	ST-1224	Socket, 3/4" 12 Pt.	11	8729	Short Bx., 3/8"x3/4"	34	SDP-2	Phillips, #2x4"	46	PL-137	Plier, Battery, 7"	49
BD-1226	Dp. Skt., 1 1/16" 12 Pt.	7	ST-1225	Socket, 2 3/32" 12 Pt.	11	9029C	Sht. Bx., 1 1/16"x1 3/16"	34	SDP-3	Phillips, #3x6"	46	PL-17	Plier, Cutting, 7"	48
BD-1228	Dp. Skt., 7/8" 12 Pt.	7	ST-1226	Socket, 1 3/16" 12 Pt.	11	K-61	Kit for Shrt. Bx. Wrs.	18	SDP-4	Phillips, #4x8"	46	PL-47	Plier, Needle, 7"	48
BU-1212	Univ., 3/8" 12 Pt.	7	ST-1228	Socket, 7/8" 12 Pt.	11	1101	Ignition, 1 3/4"x1 5/16"	40	SDP-20	Phillips, #2x1 1/4"	46			
BU-1214	Univ., 7/16" 12 Pt.	7	ST-1230	Socket, 1 1/16" 12 Pt.	11	1101A	Ignition, 1 5/8"x1 3/16"	40	SS-50	Screw Starter, 5"	46			



**LX-171B BODY MECHANICS SERVICE SET — 171 Tools in MB-206V, 6 Drawer Metal Chest****LX-171BT BODY MECHANICS SERVICE SET — 171 Tools in MB-206V and MB-51V Tray****LX-171 BODY MECHANICS SERVICE SET — 171 Tools without Metal Chest or Tray**

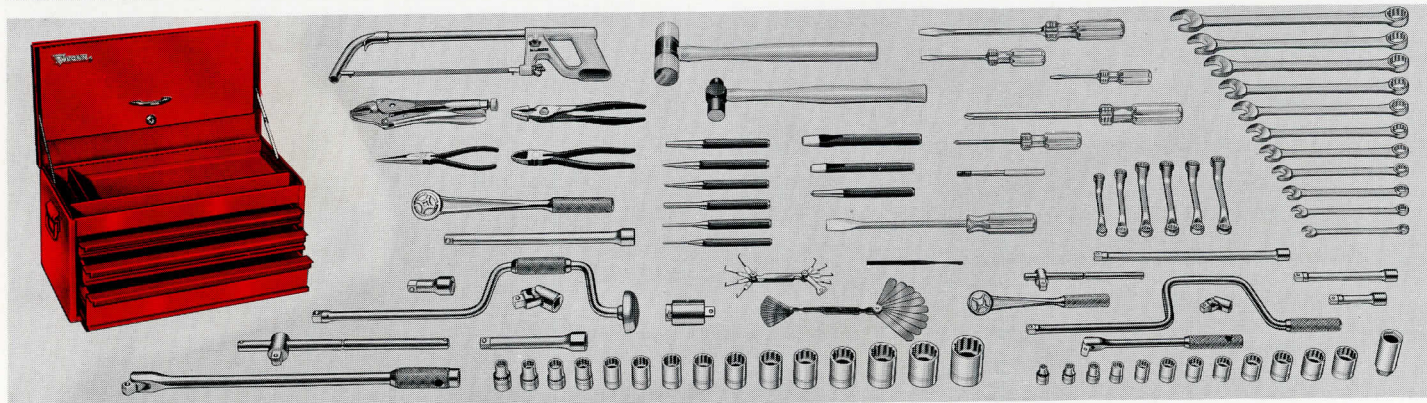
The specialist in body repair work will find these 171 tools best suited for all of the all-around work that is required. Each repair-

man has his own likes and dislikes in the specialized body tools. The semi-specials are described in complete detail on pages

78 and 79. Ample room is provided in the MB-206V Chest for the addition of tools most suited to your work.

Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.	
1/4" DRIVE TOOLS			3/8" DRIVE TOOLS			1/2" DRIVE TOOLS			WRENCHES			PUNCHES and CHISELS			
M-606	Socket, 3/16" 6 Pt.	3	B-1220	Socket, 5/8" 12 Pt.	7	ST-1214	Socket, 3/16" 12 Pt.	11	8725B	Long Box, 1/2"x9/16"	34	C-120	Flat Chisel, 5/8"	52	
M-607	Socket, 1/32" 6 Pt.	3	B-1222	Socket, 11/16" 12 Pt.	7	ST-1216	Socket, 1/2" 12 Pt.	11	8727A	Long Box, 5/8"x1 1/16"	34	C-124	Flat Chisel, 3/4"	52	
M-608	Socket, 1/4" 6 Pt.	3	B-1224	Socket, 3/4" 12 Pt.	7	ST-1218	Socket, 5/8" 12 Pt.	11	8731A	Long Box, 3/4"x7/8"	34	C-128	Flat Chisel, 7/8"	52	
M-609	Socket, 5/32" 6 Pt.	3	B-1226	Socket, 13/16" 12 Pt.	7	ST-1219	Socket, 11/32" 12 Pt.	11	8033C	Long Box, 15/16"x1"	34	P-103	Pin Punch, 3/32"	53	
M-610	Socket, 3/16" 6 Pt.	3	B-1228	Socket, 7/8" 12 Pt.	7	ST-1220	Socket, 5/8" 12 Pt.	11	RB-810	Ratchet, 1/4"x3/16"	32	P-104	Pin Punch, 1/8"	53	
M-611	Socket, 11/32" 6 Pt.	3	BD-612	Dp. Skt., 3/8" 12 Pt.	7	ST-1222	Socket, 1 1/16" 12 Pt.	11	RB-1214	Ratchet, 3/8"x1/16"	32	P-106	Pin Punch, 3/16"	53	
M-612	Socket, 3/8" 6 Pt.	3	BD-614	Dp. Skt., 1/2" 12 Pt.	7	ST-1224	Socket, 3/4" 12 Pt.	11	RB-1618	Ratchet, 1/2"x3/16"	32	P-108	Pin Punch, 1/4"	53	
M-614	Socket, 7/16" 6 Pt.	3	BD-616	Dp. Skt., 1/2" 12 Pt.	7	ST-1225	Socket, 25/32" 12 Pt.	11	RB-2022	Ratchet, 3/4"x1/16"	32	P-110	Pin Punch, 3/8"	53	
M-616	Socket, 1/2" 6 Pt.	3	BD-618	Dp. Skt., 5/8" 12 Pt.	7	ST-1226	Socket, 13/16" 12 Pt.	11	RB-2428	Ratchet, 3/4"x7/8"	32	P-203	Start Punch, 3/32"	53	
MD-608	Dp. Skt., 1/4" 6 Pt.	3	BD-620	Dp. Skt., 5/8" 12 Pt.	7	ST-1228	Socket, 7/8" 12 Pt.	11	RB-2630	Ratchet, 15/16"x15/16"	32	P-204	Start Punch, 1/8"	53	
MD-609	Dp. Skt., 3/8" 6 Pt.	3	BD-622	Dp. Skt., 1 1/16" 12 Pt.	7	ST-1230	Socket, 15/16" 12 Pt.	11	PW-14	Pipe Wrench, 14"	39	P-206	Start Punch, 3/16"	53	
MD-610	Dp. Skt., 5/16" 6 Pt.	3	BD-624	Dp. Skt., 3/4" 12 Pt.	7	ST-1232	Socket, 1" 12 Pt.	11	HW-11S	Hex. Wr. Set, 11 Pcs.	40	P-208	Start Punch, 1/4"	53	
MD-611	Dp. Skt., 11/32" 6 Pt.	3	BD-626	Dp. Skt., 1 1/16" 12 Pt.	7	ST-1234	Socket, 1 1/16" 12 Pt.	11	SCREW DRIVERS			P-210	Start Punch, 3/16"	53	
MD-612	Dp. Skt., 3/8" 6 Pt.	3	BD-628	Dp. Skt., 7/8" 12 Pt.	7	ST-1236	Socket, 1 1/8" 12 Pt.	11	SD-1	Slotted, 1/4"x1 1/2"	46	P-412	Center Punch	53	
MD-614	Dp. Skt., 7/16" 6 Pt.	3	22-610	S.T.Skt., 5/8" 6 Pt.	42	ST-1240	Socket, 1 1/4" 12 Pt.	11	SD-3	Slotted, 3/32"x3"	46	P-416	Center Punch	53	
MD-616	Dp. Skt., 1/2" 6 Pt.	3	22-612	S.T.Skt., 3/8" 6 Pt.	42	S-15	Speeder Handle	10	SD-4	Slotted, 1/4"x4"	46	K-171	Kit for P&C Set	18	
M-408	Socket, 1/4" 4 Pt.	3	22-614	S.T.Skt., 7/16" 6 Pt.	42	S-20A	Sliding T Handle	10	SD-6	Slotted, 3/16"x6"	46	VISE-GRIP TOOLS			
M-810	Socket, 5/16" 8 Pt.	3	22-616	S.T.Skt., 1/2" 6 Pt.	42	S-41	Flex Handle, 17 1/4"	10	SD-8	Slotted, 3/8"x8"	46	V-7R	Straight Jaw, 7"	51	
M-812	Socket, 3/8" 8 Pt.	3	BA-10-1	Socket for Bits	7	S-52	Ratchet, 11 1/4"	10	SD-12	Slotted, 3/8"x12"	46	V-10R	Straight Jaw, 10"	51	
M-20A	Sliding T Handle	3	AS-1	Slotted Bit, .032"	7	S-102P	Extension, 2 1/2"	10	SDP-1	Phillips, #1x3"	46	V-8R	Sheet Metal, 8"	51	
M-42	Flex. Handle	3	AS-2	Slotted Bit, .040"	7	S-110P	Extension, 5 1/2"	10	SDP-2	Phillips, #2x4"	46	V-9R	Welding Clamp, 9"	51	
M-51	Ratchet	3	AS-3	Slotted Bit, .045"	7	S-115P	Extension, 10 1/2"	10	SDP-3	Phillips, #3x6"	46	V-11R	"C" Clamp, 11"	51	
M-102	Extension, 2"	3	AS-4	Slotted Bit, .055"	7	S-140	Universal Joint	10	SDP-4	Phillips, #4x8"	46	MISCELLANEOUS TOOLS			
M-115	Extension, 6"	3	AP-1	Phillips Bit, #1	7	WRENCHES			SDP-20	Phillips, #2x1 1/4"	46	PL-17	Plier, Cutting, 7"	48	
M-106	Spin Handle	3	AP-2	Phillips Bit, #2	7	1159	Long Comb., 5/16"	32	SDO-1	Slotted Offset	47	PL-28	Plier, Slip Jt., 8"	49	
M-140	Universal Joint	3	AP-3	Phillips Bit, #3	7	1160	Long Comb., 3/8"	32	SDO-2	Slotted Offset	47	MS-10L	Metal Shear, Left	51	
MB-102	Mtl. Bx., 1/4" Tools	21	AP-4	Phillips Bit, #4	7	1161	Long Comb., 1/2"	32	SDP-12	Phillips Offset	47	MS-10R	Metal Shear, Right	51	
3/8" DRIVE TOOLS			B-15	Speeder Handle	6	1162	Long Comb., 1 1/2"	32	SS-34	Phillips Offset	47	MS-10S	Metal Shear, Str.	51	
B-608	Socket, 1/4" 6 Pt.	7	B-20A	Sliding T Handle	6	1163	Long Comb., 5/8"	32	PUNCHES and CHISELS			BH-12	Hammer, 3/4 lb.	78	
B-610	Socket, 3/8" 6 Pt.	7	B-40	Flex Handle	6	1164	Long Comb., 3/4"	32	C-112	Flat Chisel, 3/8"	52	BH-24	Hammer, 1 1/2 lb.	78	
B-1212	Socket, 3/8" 12 Pt.	7	B-52	Ratchet	6	1165	Long Comb., 1 1/8"	32	C-116	Flat Chisel, 1/2"	52	BH-40	Hammer, 2 1/2 lb.	78	
B-1214	Socket, 7/16" 12 Pt.	7	B-108	Extension, 3"	6	8723	Long Box, 3/8"x7/16"	34				F-300B	File Set 3 Bumping	78	
B-1216	Socket, 1/2" 12 Pt.	7	B-110	Extension, 5 1/2"	6										
B-1218	Socket, 5/8" 12 Pt.	7	B-115	Extension, 10 1/2"	6										
B-1219	Socket, 1 1/32" 12 Pt.	7	B-140	Universal Joint	6										



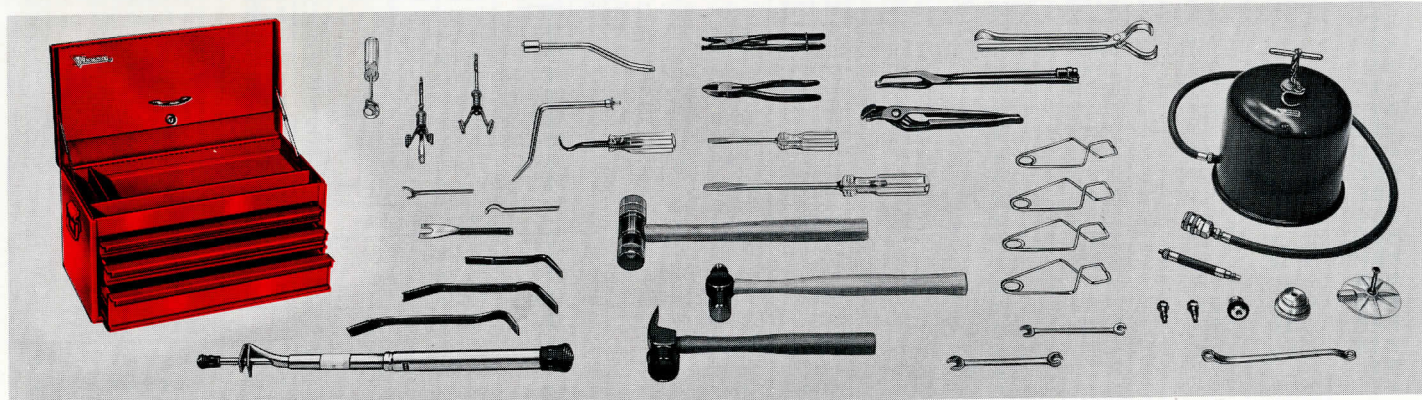
**LX-88B MECHANICS TOOL SET — 88 Tools in MB-203V, 3 Drawer Metal Chest****LX-88BT MECHANICS TOOL SET — 88 Tools in MB-203V and MB-51V Tray****LX-88 MECHANICS TOOL SET — 88 Tools without Metal Chest or Tray**

Eighty-eight carefully selected tools to give you the most in the basic tools required for daily use.  $\frac{3}{8}$ " and  $\frac{1}{2}$ " sq. drive sockets,

attachments and handles with nut turning capacity from  $\frac{1}{4}$ " thru  $1\frac{1}{4}$ ". Screw Drivers, Wrenches, Chisels, Punches, Pliers, Ham-

mers and miscellaneous tools complete this Mechanics Set. The MB-203V three drawer Chest is fully described on page 21.

Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.
<b>3/8" DRIVE TOOLS</b>			<b>3/8" DRIVE TOOLS</b>			<b>1/2" DRIVE TOOLS</b>			<b>WRENCHES</b>			<b>CHISELS and PUNCHES</b>		
B-608	Socket, $\frac{1}{4}$ " 6 Pt.	7	B-140	Universal Joint	6	S-15	Speeder Handle	10	1162	Long Comb., $\frac{1}{2}$ "	32	P-416	Center Punch	53
B-610	Socket, $\frac{3}{8}$ " 6 Pt.	7	BD-626R	Spark Plg. Skt.	7	S-20A	Sliding T Handle	10	1163	Long Comb., $\frac{3}{8}$ "	32	<b>MISCELLANEOUS TOOLS</b>		
B-1212	Socket, $\frac{3}{8}$ " 12 Pt.	7	<b>1/2" DRIVE TOOLS</b>			S-41	Flex Handle $17\frac{1}{4}$ "	10	1164	Long Comb., $\frac{1}{2}$ "	32	HS-4	Hack Saw, Tubular	82
B-1214	Socket, $\frac{3}{8}$ " 12 Pt.	7	<b>1/2" DRIVE TOOLS</b>			S-52	Ratchet, $11\frac{1}{4}$ "	10	1165	Long Comb., $\frac{1}{2}$ "	32	BH-12	Bl. Pn. Hmr., 12 oz.	78
B-1216	Socket, $\frac{1}{2}$ " 12 Pt.	7	ST-1214	Socket, $\frac{1}{16}$ " 12 Pt.	11	S-55	Ratchet Adaptor	10	1166	Long Comb., $\frac{3}{4}$ "	32	HP-16	Plastic Hmr., 16 oz.	78
B-1218	Socket, $\frac{1}{2}$ " 12 Pt.	7	ST-1216	Socket, $\frac{1}{8}$ " 12 Pt.	11	S-102P	Extension, $2\frac{1}{2}$ "	10	1167A	Long Comb., $\frac{3}{4}$ "	32	SDP-2	Scr. Dr., Phillips #2	46
B-1219	Skt., $\frac{1}{32}$ " 12 Pt.	7	ST-1218	Socket, $\frac{1}{8}$ " 12 Pt.	11	S-110P	Extension, $5\frac{1}{2}$ "	10	1167	Long Comb., $\frac{7}{8}$ "	32	SDP-4	Scr. Dr., Phillips #4	46
B-1220	Socket, $\frac{3}{8}$ " 12 Pt.	7	ST-1219	Socket, $\frac{1}{32}$ " 12 Pt.	11	S-115P	Extension, $10\frac{1}{2}$ "	10	1168	Long Comb., $\frac{15}{16}$ "	32	SD-3	Scr. Dr., Slotted, 3"	46
B-1222	Skt., $\frac{1}{16}$ " 12 Pt.	7	ST-1220	Socket, $\frac{3}{8}$ " 12 Pt.	11	S-140	Universal Joint	10	1170	Long Comb., 1"	32	SD-4	Scr. Dr., Slotted, 4"	46
B-1224	Socket, $\frac{3}{4}$ " 12 Pt.	7	ST-1222	Socket, $\frac{1}{16}$ " 12 Pt.	11	<b>WRENCHES</b>			<b>CHISELS and PUNCHES</b>			SD-8	Scr. Dr., Slotted, 8"	46
B-1226	Skt., $\frac{1}{32}$ " 12 Pt.	7	ST-1224	Socket, $\frac{3}{4}$ " 12 Pt.	11	9723	Short Box, $\frac{3}{8}$ " x $\frac{1}{16}$ "	34	C-116	Flat Chisel, $\frac{1}{2}$ "	52	SS-50	Screw Starter, 5"	46
B-1228	Socket, $\frac{7}{8}$ " 12 Pt.	7	ST-1225	Socket, $\frac{29}{32}$ " 12 Pt.	11	9725	Short Box, $\frac{1}{2}$ " x $\frac{1}{16}$ "	34	C-124	Flat Chisel, $\frac{3}{4}$ "	52	PL-28	Plier, Slip Jt., 8"	49
B-15	Speeder Handle	6	ST-1226	Socket, $\frac{1}{32}$ " 12 Pt.	11	9725B	Short Box, $\frac{1}{2}$ " x $\frac{3}{16}$ "	34	P-104	Pin Punch, $\frac{1}{8}$ "	53	PL-17	Plier, Side Cut, 7"	48
B-20A	Sliding T Handle	6	ST-1228	Socket, $\frac{7}{8}$ " 12 Pt.	11	9727	Short Box, $\frac{1}{2}$ " x $\frac{5}{16}$ "	34	P-106	Pin Punch, $\frac{3}{16}$ "	53	PL-47	Plier, Needle, 7"	48
B-40	Flex Handle	6	ST-1230	Socket, $\frac{1}{32}$ " 12 Pt.	11	9729	Short Box, $\frac{3}{8}$ " x $\frac{3}{4}$ "	34	P-110	Pin Punch, $\frac{3}{16}$ "	53	FG-322	Feeler Gauge	61
B-52	Ratchet	6	ST-1232	Socket, 1" 12 Pt.	11	9029C	Sht. Box, $\frac{1}{16}$ " x $\frac{1}{16}$ "	34	P-204	Start Punch, $\frac{1}{8}$ "	53	FG-409	Spark Plug Ga.	61
B-108	Extension, 3"	6	ST-1234	Socket, $1\frac{1}{16}$ " 12 Pt.	11	1160	Long Comb., $\frac{3}{8}$ "	32	P-206	Start Punch, $\frac{3}{16}$ "	53	CS-8	Carbon Scraper, 8"	68
B-110	Extension, $5\frac{1}{2}$ "	6	ST-1236	Socket, $1\frac{1}{8}$ " 12 Pt.	11	1161	Long Comb., $\frac{1}{2}$ "	32	P-210	Start Punch, $\frac{3}{16}$ "	53	F-5P	Point File, 5"	81
B-115	Extension, $10\frac{1}{2}$ "	6	ST-1240	Socket, $1\frac{1}{4}$ " 12 Pt.	11							V-10WR	Vise-Grip, 10"	51

**LX-31B SERVICES ALL MAKES OF CARS****ALL ESSENTIAL BRAKE SERVICE TOOLS****LX-31B BRAKE MECHANICS SERVICE SET — 31 Tools in MB-203V, 3 Drawer Metal Chest****LX-31BT BRAKE MECHANICS SERVICE SET — 31 Tools in MB-203V and MB-51V Tray****LX-31 BRAKE MECHANICS SERVICE SET — 31 Tools without Metal Chest or Tray**

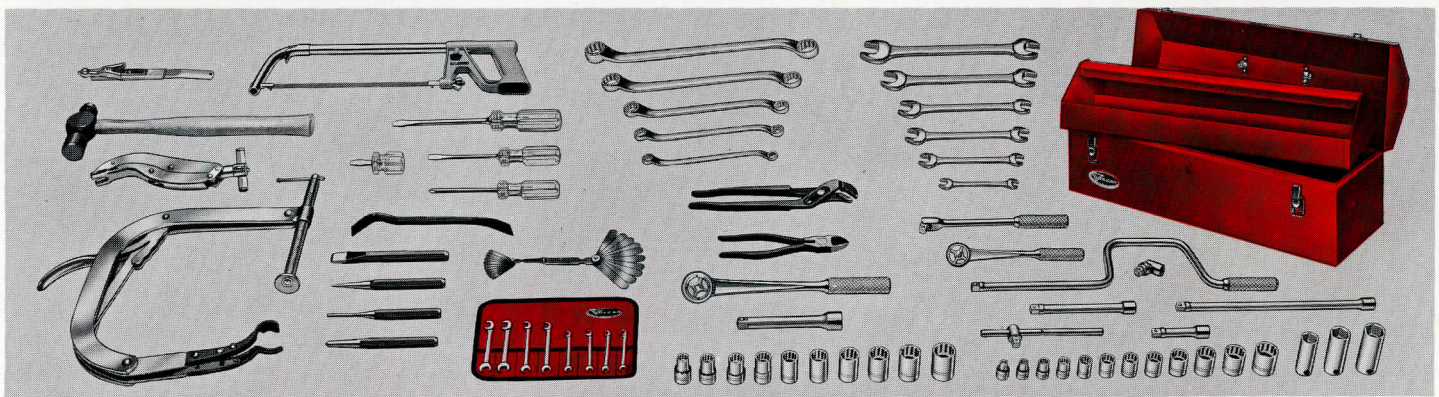
All of the necessary standard and special purpose tools for brake adjustment and repair on today's cars and light trucks. The

complete set is furnished in MB-203V three drawer Metal Chest described on page 21. Note that ample room is provided in the top

compartment for extra tools. This top area is fitted to accept the MB-51V Tote Tray which is optional equipment.

Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.
BT-100	Brake Anchor Tool	73	BT-106A	Brake Spring Comp.	73	PL-110	Plier, Rib Joint, 10"	49	1312	Flarenut Wrnch., $\frac{3}{8}$ "	38	CK-1	Cotter Key Tool	84
BT-101	Brake Pick, 8" Long	73	BT-107	Brake Spring Rmvr.	73	PL-213	Plier, Bk. Sg., $12\frac{1}{2}$ "	50	1314	Flarenut Wrnch., $\frac{1}{2}$ "	38	SD-4	Screw Dvr., $\frac{1}{4}$ " x 4"	46
BT-102	Brk. Pick, $8\frac{1}{2}$ " Lg.	73	BT-108	Brake Spring Rmvr.	73	PL-227	Plier, Lock Ring, 7"	50	BB-1	Brake Bleeder	73	SD-8	Screw Dvr., $\frac{3}{8}$ " x 8"	46
BT-103	Brk. Pick, $6\frac{3}{4}$ " Lg.	73	BT-109	Brake Pedal Jack	73	BH-1	Cyl. Hone, $\frac{3}{4}$ " x $2\frac{1}{4}$ "	73	RH-500	Cv. Tl. & Rubber Hr.	78	BH-16	Ball Pein Hmr., 1 Lb.	78
BT-104	Chrysler Hand Brake	73	BT-110	Cyl. Clamp Set (4)	73	BH-2	Cly. H., 17mm-51mm	73	GCP-1	Grease Cap Tool	72	HP-16	Plastic Hmr., 1 Lb.	78
BT-105	Chrysler Int. Hd Bk.	73	PL-17	Plier, Side Cut, 7"	48	8723S	Bl. Wr., $\frac{3}{8}$ " x $\frac{1}{16}$ " 6Pt.	34						



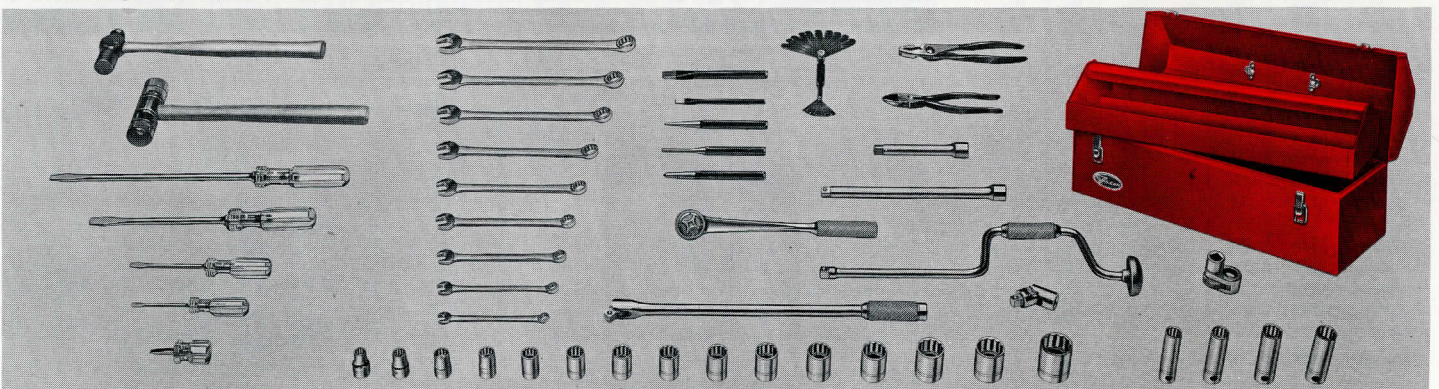
**LX-71B ALL-PURPOSE BASIC SET — 71 Tools in MB-6 Hip Roof Metal Box****LX-71 ALL-PURPOSE BASIC SET — 71 Tools without Metal Box**

A high percentage of basic repairs and adjustments can be made with the care-

fully selected range of sockets, wrenches and tools in this set. Metal Box and tote

tray are a convenient size for service calls or shop work.

Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.
<b>3/8" DRIVE TOOLS</b>			<b>3/8" DRIVE TOOLS</b>			<b>1/2" DRIVE TOOLS</b>			<b>WRENCHES</b>			<b>MISCELLANEOUS TOOLS</b>		
B-608	Socket, 1/4" 6 Pt.	7	B-20A	Sliding T Handle	6	ST-1225	Socket, 25/32" 12 Pt.	11	1031B	Dble. End, 25/32" x 13/16"	36	PL-110	Plier, Rib Joint, 10"	49
B-610	Socket, 3/16" 6 Pt.	7	B-40	Flex Handle	6	ST-1226	Socket, 13/16" 12 Pt.	11	1033A	Dble. End, 7/8" x 15/16"	36	HS-4	Hack Saw	82
B-1212	Socket, 3/8" 12 Pt.	7	B-52	Ratchet	6	ST-1228	Socket, 7/8" 12 Pt.	11	1101	Ignition, 13/64" x 15/64"	40	SD-1	Screw Dr., 1/4" x 1 1/2"	46
B-1214	Socket, 7/16" 12 Pt.	7	B-108	Extension, 3"	6	S-52	Ratchet, 11 1/4"	10	1101A	Ignition, 15/64" x 13/64"	40	SD-4	Screw Dr., 1/4" x 4"	46
B-1216	Socket, 1/2" 12 Pt.	7	B-110	Extension, 5 1/2"	6	S-110P	Extension, 5 1/2"	10	1102	Ignition, 7/32" x 1/4"	40	SD-6	Screw Dr., 3/16" x 6"	46
B-1218	Socket, 9/16" 12 Pt.	7	B-115	Extension, 10 1/2"	6	<b>WRENCHES</b>			1102A	Ignition, 1/4" x 3/32"	40	SDP-2	Phillips Sc. Dr., #2	46
B-1219	Socket, 1 1/32" 12 Pt.	7	B-140	Universal Joint	6	<b>WRENCHES</b>			1103	Ignition, 3/32" x 3/16"	40	C-120	Flat Chisel, 5/8"	52
B-1220	Socket, 5/8" 12 Pt.	7	<b>1/2" DRIVE TOOLS</b>			8723	Long Box, 3/8" x 7/8"	34	1103A	Ignition, 3/16" x 3/32"	40	P-106	Pin Punch, 3/16"	53
B-1222	Socket, 1 1/16" 12 Pt.	7	ST-1214	Socket, 7/16" 12 Pt.	11	8725B	Long Box, 1/2" x 1 1/16"	34	1103A	Ignition, 3/16" x 3/32"	40	P-206	Start Punch, 3/16"	53
B-1224	Socket, 3/4" 12 Pt.	7	ST-1216	Socket, 1/2" 12 Pt.	11	8727A	Long Box, 5/8" x 1 1/16"	34	1104	Ignition, 1/32" x 3/32"	40	P-416	Center Punch	53
B-1226	Socket, 13/16" 12 Pt.	7	ST-1218	Socket, 9/16" 12 Pt.	11	8731A	Long Box, 3/4" x 1 1/8"	34	1104A	Ignition, 3/8" x 1 1/32"	40	FG-322	Feeler Gauge	61
B-1228	Socket, 7/8" 12 Pt.	7	ST-1219	Socket, 1 1/32" 12 Pt.	11	8033C	Long Box, 15/16" x 1"	34	K-84	Kit for Ign. Wrs.	18	BT-101	Brake Adj. Tool	73
BD-620	Dp. Skt., 5/8" 6 Pt.	7	ST-1219	Socket, 1 1/32" 12 Pt.	11	1723	Dble. End, 3/8" x 7/16"	36	<b>MISCELLANEOUS TOOLS</b>			VL-1	Valve Lifter	67
BD-624	Dp. Skt., 3/4" 6 Pt.	7	ST-1220	Socket, 5/8" 12 Pt.	11	1725B	Dble. End, 1/2" x 9/16"	36	BH-24	Bl. Pn. Hm., 1 1/2 Lb.	78	VL-2	Valve Spring Comp.	67
BD-626	Dp. Skt., 13/16" 6 Pt.	7	ST-1222	Socket, 1 1/16" 12 Pt.	11	1027	Dble. End, 1 1/32" x 1 1/16"	36	PL-17	Plier, Side Cut, 7"	48	VT-1	Valve Key Repl.	67
B-15	Speeder Handle	6	ST-1224	Socket, 3/4" 12 Pt.	11	1729	Dble. End, 3/8" x 3/4"	36						

**LX-50B 1/2" DRIVE—WITH 50 BASIC TOOLS****MOST-NEEDED SOCKETS, WRENCHES, TOOLS****LX-50B APPRENTICE MECHANICS SERVICE SET — 50 Tools in MB-6 Hip Roof Metal Box****LX-50 APPRENTICE MECHANICS SERVICE SET — 50 Tools without Metal Box**

The fifty basic tools in this set enable the apprentice mechanic to do the most work

with the least tools. There is plenty of additional space in the hip roof metal box

and tote tray for additional items as work and experience expand.

Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.	Stock No.	Description	Pg.
<b>1/2" DRIVE TOOLS</b>			<b>1/2" DRIVE TOOLS</b>			<b>1/2" DRIVE TOOLS</b>			<b>WRENCHES</b>			<b>MISCELLANEOUS TOOLS</b>		
ST-1214	Socket, 7/16" 12 Pt.	11	ST-1232	Socket, 1" 12 Pt.	11	S-60B	Stud Remover	10	1165	Long Comb., 1 1/16"	32	C-112	Flat Chisel, 3/8"	52
ST-1216	Socket, 1/2" 12 Pt.	11	ST-1234	Socket, 1 1/16" 12 Pt.	11	S-110P	Extension, 5 1/2"	10	1166	Long Comb., 3/4"	32	C-120	Flat Chisel, 5/8"	52
ST-1218	Socket, 9/16" 12 Pt.	11	ST-1236	Socket, 1 1/8" 12 Pt.	11	S-115P	Extension, 10 1/2"	10	1167A	Long Comb., 13/16"	32	P-106	Pin Punch, 3/16"	53
ST-1219	Socket, 1 1/32" 12 Pt.	11	ST-1240	Socket, 1 1/4" 12 Pt.	11	S-140	Universal Joint	10	1167	Long Comb., 7/8"	32	P-206	Start Punch, 3/16"	53
ST-1220	Socket, 5/8" 12 Pt.	11	SD-1220	Dp. Skt., 5/8" 12 Pt.	11	<b>WRENCHES</b>			<b>MISCELLANEOUS TOOLS</b>			P-416	Center Punch	53
ST-1222	Socket, 1 1/16" 12 Pt.	11	SD-1222	Dp. Skt., 1 1/16" 12 Pt.	11	1160	Long Comb., 3/8"	32	SD-1	Screw Dr., 1/4" x 1 1/2"	46	BH-16	Bal. Pn. Hmr., 1 Lb.	78
ST-1224	Socket, 3/4" 12 Pt.	11	SD-1224	Dp. Skt., 3/4" 12 Pt.	11	1161	Long Comb., 1/2"	32	SD-4	Screw Dr., 1/4" x 4"	46	HP-8	Plastic Hmr., 8 oz.	78
ST-1225	Socket, 13/16" 12 Pt.	11	SD-1226	Dp. Skt., 13/16" 12 Pt.	11	1162	Long Comb., 1/2"	32	SD-8	Screw Dr., 3/8" x 8"	46	FG-322	Feeler Gauge	61
ST-1226	Socket, 7/8" 12 Pt.	11	S-15	Speeder Handle	10	1163	Long Comb., 13/16"	32	SD-12	Screw Dr., 3/8" x 12"	46	PL-17	Plier, Side Cut, 7"	48
ST-1228	Socket, 1 1/8" 12 Pt.	11	S-41	Flex Handle, 17 1/4"	10	1164	Long Comb., 3/8"	32	SDE-3	Screw Dr., 3/8" x 3"	46	PL-28	Plier, Sl. Jt. 8"	49
ST-1230	Socket, 1 1/16" 12 Pt.	11	S-52	Ratchet, 11 1/4"	10									

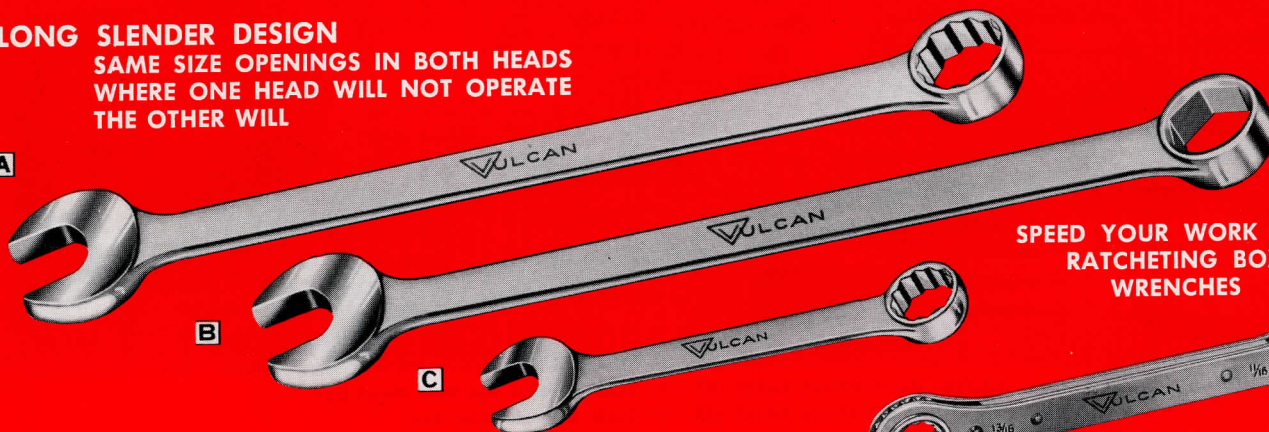




## LONG SLENDER DESIGN

SAME SIZE OPENINGS IN BOTH HEADS  
WHERE ONE HEAD WILL NOT OPERATE  
THE OTHER WILL

A



SPEED YOUR WORK WITH  
RATCHETING BOX  
WRENCHES

MAKE CLOSE QUARTER JOBS EASY  
WITH THIS SHORT HANDLE SERIES

**A LONG COMBINATION  
OPEN END — 12 POINT BOX WRENCHES**

These VULCAN Combination Wrenches have a new, long slender design offering exceptional balance and greatly increased efficiency where clearance is limited. Handles are long and narrow with comfortable edges for sure grip without digging into the hand. Drop forged from selected alloy steel and fully heat-treated for long service.

Open-ings	Stock No.	Open Head		Box Head		Length
		Width	Thick	Diam.	Thick	
1/4	1158	35/64	3/32	13/32	3/16	5
5/16	1159	17/16	3/16	17/32	7/32	5 1/2
11/32	1159A	17/16	3/16	17/32	7/32	5 1/2
3/8	1160	51/64	1/8	37/64	1/4	6
7/16	1161	29/32	7/32	21/32	5/16	6 5/8
1/2	1162	17/32	1/4	47/64	21/64	7 1/16
9/16	1163	13/32	9/32	53/64	11/32	7 15/16
5/8	1164	19/32	19/64	59/64	3/8	8 3/4
11/16	1165	19/32	5/16	11/64	13/32	9 5/8
3/4	1166	17/32	11/32	13/32	7/16	10 5/8
13/16	1167A	15/8	23/64	11/64	15/32	11 1/16
7/8	1167	13/4	9/8	1/4	1/2	12 1/16
15/16	1168	155/64	25/64	12/64	9/16	13 7/8
1	1170	131/32	13/32	127/64	5/8	15 1/8
1 1/16	1171	23/32	27/64	11/2	43/64	16 1/4
1 1/8	1172	27/32	7/16	19/16	21/32	17 1/16
1 1/4	1173	213/32	15/32	125/32	3/4	18 1/16
1 1/2	1174	219/32	1/2	127/32	25/32	20
1 3/8	1176A	261/64	9/16	23/32	27/32	21 1/16
1 1/2	1176	261/64	9/16	23/32	27/32	21 1/16
1 5/8	1178	261/64	9/16	23/32	27/32	21 1/16
1 7/8	1180	313/64	5/8	25/16	29/32	22 3/4
1 11/16	1182	313/64	5/8	25/16	29/32	22 3/4
1 3/4	1184	315/16	3/4	27/8	1 1/16	26
1 13/16	1186	315/16	3/4	27/8	1 1/16	26
1 7/8	1188	315/16	3/4	27/8	1 1/16	26
2	1190	315/16	3/4	27/8	1 1/16	26

**B LONG COMBINATION  
OPEN END — HEX BOX WRENCHES**

Six point Box Wrench openings for the best possible fit on frozen bolts and nuts and fasteners with worn and rounded corners. The long slender pattern of these wrenches gives you greater strength and balance without excess weight.

Open-ings	Stock No.	Open Head		Box Head		Length
		Width	Thick	Diam.	Thick	
5/16	XOE-610	11/16	3/16	17/32	7/32	5 1/2
3/8	XOE-612	51/64	13/64	37/64	1/4	6
7/16	XOE-614	29/32	7/32	21/32	5/16	6 5/8
1/2	XOE-616	11/32	1/4	47/64	21/64	7 1/16
9/16	XOE-618	13/32	9/32	53/64	11/32	7 15/16
5/8	XOE-620	19/32	19/64	59/64	3/8	8 3/4
11/16	XOE-622	113/32	5/16	11/64	13/32	9 5/8
3/4	XOE-624	117/32	11/32	13/32	7/16	10 5/8

**C SHORT COMBINATION  
OPEN END — 12 POINT BOX WRENCHES**

Short Combination Wrenches are required by most mechanics for work on modern cars where clearances are at a minimum. Selected alloy steel properly heat-treated. Fully polished heads. Entire wrench plated with bright chrome over nickel.

Open-ings	Stock No.	Open Head		Box Head		Length
		Width	Thick	Diam.	Thick	
5/16	S-1159	43/64	3/16	33/64	7/32	4 5/8
3/8	S-1160	51/64	13/64	37/64	1/4	5 1/8
7/16	S-1161	29/32	7/32	21/32	5/16	5 3/8
1/2	S-1162	17/32	1/4	47/64	21/64	5 13/16
9/16	S-1163	13/32	9/32	53/64	11/32	6 1/8
5/8	S-1164	19/32	19/64	59/64	3/8	6 1/2
11/16	S-1165	113/32	5/16	11/64	13/32	6 3/4
3/4	S-1166	117/32	11/32	13/32	7/16	7

**D RATCHETING BOX WRENCHES**

Superior design, materials and workmanship go into the manufacture of these fine Ratcheting Box Wrenches. The action of the pawl against the gear tooth is clean and sure to produce a solid bite every time. Polished chrome finish. RB-810, RB-1214 and RB-1618 have hex openings.

Opening Sizes	Stock No.	Small Head		Large Head		Length
		Diam.	Thick	Diam.	Thick	
1/4 & 5/16	RB-810	19/32	3/8	5/8	3/8	4 1/4
3/8 & 7/16	RB-1214	23/32	3/8	7/8	3/8	5 1/2
1/2 & 9/16	RB-1618	1	1/2	1 1/8	1/2	6 3/4
5/8 & 11/16	RB-2022	1 1/32	1/2	1 7/8	1/2	8
5/8 & 3/4	RB-2024	1 1/32	1/2	1 7/8	1/2	8
3/4 & 7/8	RB-2428	1 13/32	1/2	1 11/16	1/2	9 1/4
13/16 & 15/16	RB-2630	1 17/32	1/2	1 15/16	1/2	9 1/4



## RATCHETING BOX WRENCHES

E



F



**E LRB-3K 3 RATCHET BOX WRS. in K-31 Kit  
LRB-3 3 RATCHET BOX WRS. without Kit**

A set of just three wrenches with popular opening sizes from 3/8" through 3/4". A complete description of the wrenches in this set is given at "D" above.

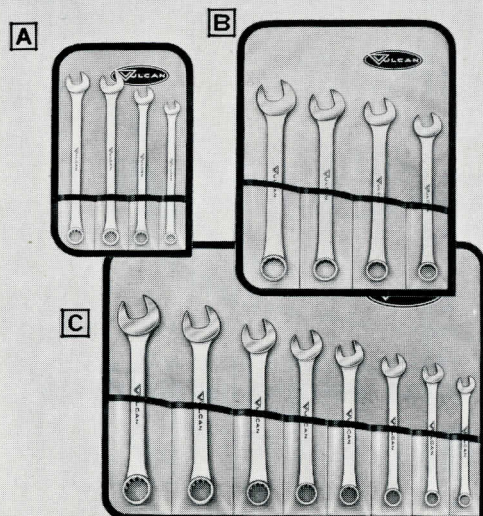
Stock No.	Description
RB-1214	Ratchet, 3/8" x 7/16"
RB-1618	Ratchet, 1/2" x 9/16"
RB-2024	Ratchet, 5/8" x 3/4"

**F LRB-6K 6 RATCHET BOX WRS. in K-61 Kit  
LRB-6 6 RATCHET BOX WRS. without Kit**

Every required opening size from 1/4" thru 1 1/16" to speed your work and save you time.

Stock No.	Description
RB-810	Ratchet, 1/4" x 5/16"
RB-1214	Ratchet, 3/8" x 7/16"
RB-1618	Ratchet, 1/2" x 9/16"
RB-2022	Ratchet, 5/8" x 11/16"
RB-2428	Ratchet, 3/4" x 7/8"
RB-2630	Ratchet, 13/16" x 15/16"



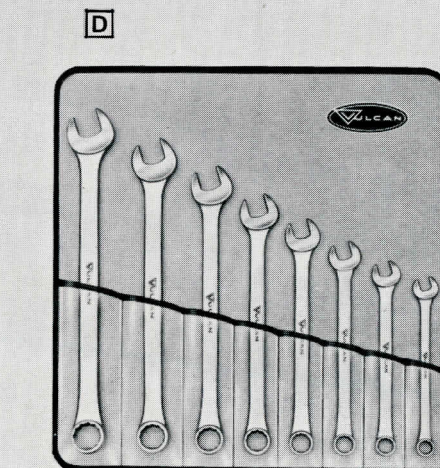


**A** LC-4K 4 LONG COMB. WRS. in K-42 Kit  
LC-4 4 LONG COMB. WRS. without Kit

Stock No.	Description
1158	Box-End Wrench, $\frac{1}{4}$ "
1159	Box-End Wrench, $\frac{3}{16}$ "
1159A	Box-End Wrench, $\frac{11}{32}$ "
1160	Box-End Wrench, $\frac{3}{8}$ "

**B** LCS-4K 4 SHORT COMB. WRS. in K-41 Kit  
LCS-4 4 SHORT COMB. WRS. without Kit

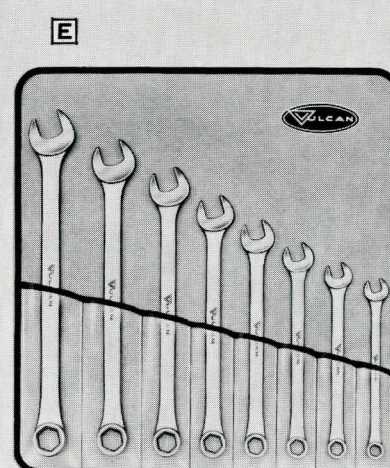
Stock No.	Description
S-1161	Box-End Wrench, $\frac{7}{16}$ "
S-1162	Box-End Wrench, $\frac{1}{2}$ "
S-1163	Box-End Wrench, $\frac{9}{16}$ "
S-1164	Box-End Wrench, $\frac{5}{8}$ "



**C** LCS-8K 8 SHORT COMB. WRS. in K-82 Kit  
LCS-8 8 SHORT COMB. WRS. without Kit

A complete set of short length, double hex Combination Wrenches from  $\frac{3}{16}$ " through  $\frac{3}{4}$ " openings. The popular short length pattern for restricted areas.

Stock No.	Description
S-1159	Box-End Wrench, $\frac{3}{16}$ "
S-1160	Box-End Wrench, $\frac{3}{8}$ "
S-1161	Box-End Wrench, $\frac{1}{2}$ "
S-1162	Box-End Wrench, $\frac{1}{2}$ "
S-1163	Box-End Wrench, $\frac{9}{16}$ "
S-1164	Box-End Wrench, $\frac{5}{8}$ "
S-1165	Box-End Wrench, $\frac{11}{16}$ "
S-1166	Box-End Wrench, $\frac{3}{4}$ "



**D** LC-8K 8 LONG 12-Pt. COMB. WRS. in K-83 Kit  
LC-8 8 LONG 12-Pt. COMB. WRS. without Kit

An excellent set of long Combination Wrenches with double hex box openings. Size range from  $\frac{1}{16}$ " through  $\frac{7}{8}$ ".

Stock No.	Description
1161	Box-End Wrench, $\frac{1}{16}$ "
1162	Box-End Wrench, $\frac{1}{8}$ "
1163	Box-End Wrench, $\frac{3}{16}$ "
1164	Box-End Wrench, $\frac{1}{4}$ "
1165	Box-End Wrench, $\frac{5}{16}$ "
1166	Box-End Wrench, $\frac{3}{8}$ "
1167A	Box-End Wrench, $\frac{7}{16}$ "
1167	Box-End Wrench, $\frac{1}{2}$ "

**E** LC-608K 8 LONG HEX COMB. WRS. in K-83 Kit  
LC-608 8 LONG HEX COMB. WRS. without Kit

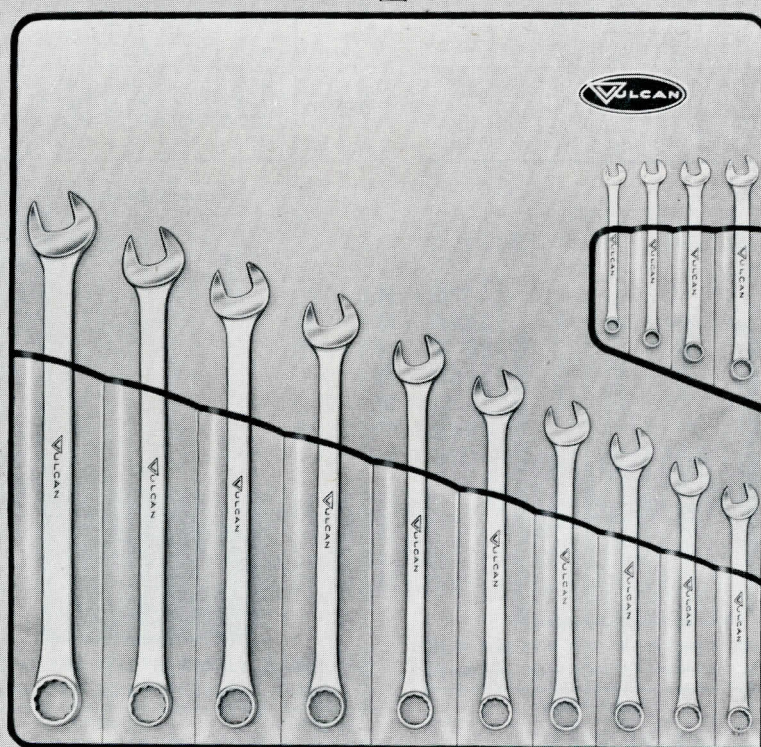
Many mechanics prefer hex opening box ends because of the greater gripping surface on seized or worn nuts and bolts.

Stock No.	Description
XOE-610	6-Pt. Box-End Wrench, $\frac{5}{16}$ "
XOE-612	6-Pt. Box-End Wrench, $\frac{3}{8}$ "
XOE-614	6-Pt. Box-End Wrench, $\frac{1}{2}$ "
XOE-616	6-Pt. Box-End Wrench, $\frac{5}{8}$ "
XOE-618	6-Pt. Box-End Wrench, $\frac{3}{4}$ "
XOE-620	6-Pt. Box-End Wrench, $\frac{7}{8}$ "
XOE-622	6-Pt. Box-End Wrench, $\frac{15}{16}$ "
XOE-624	6-Pt. Box-End Wrench, $\frac{1}{4}$ "

**F** LC-14K 14 LONG 12-Pt. COMB. WRS. in K-141 Kit  
LC-14 14 LONG 12-Pt. COMB. WRS. without Kit

A complete set of fine Combination Wrenches from  $\frac{3}{8}$ " through  $1\frac{1}{4}$ " to fit American Std. Nut and Bolt sizes from  $\frac{1}{4}$ " through  $\frac{3}{4}$ ".

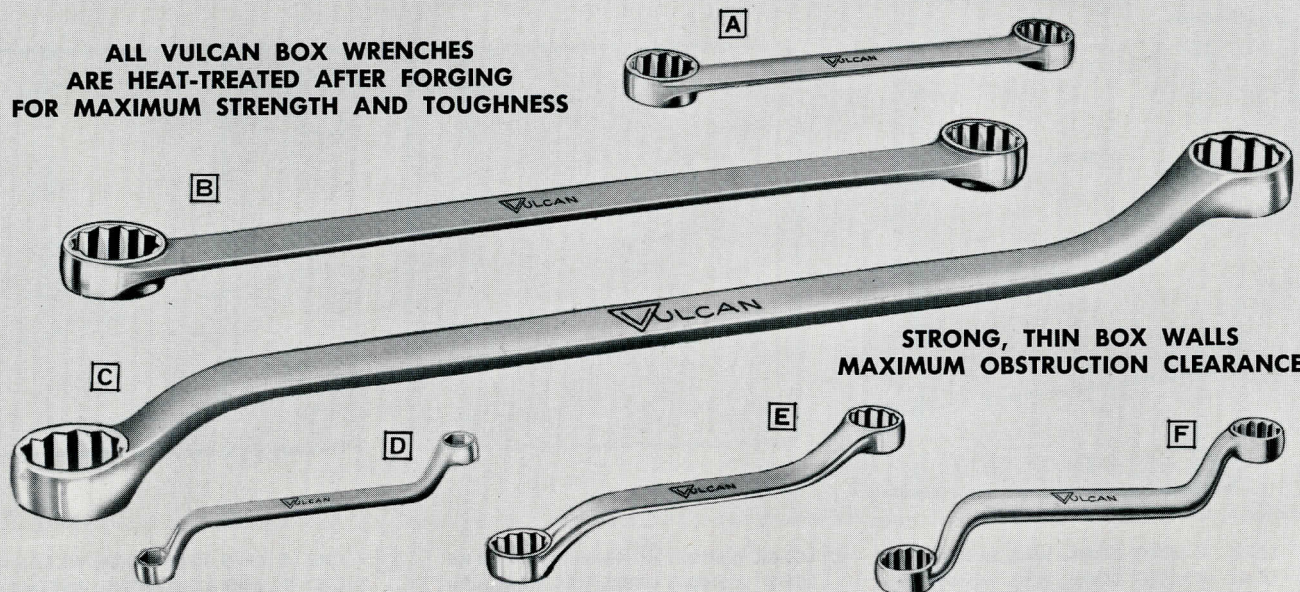
Stock No.	Description
1160	Box-End Wrench, $\frac{3}{8}$ "
1161	Box-End Wrench, $\frac{7}{16}$ "
1162	Box-End Wrench, $\frac{1}{2}$ "
1163	Box-End Wrench, $\frac{9}{16}$ "
1164	Box-End Wrench, $\frac{5}{8}$ "
1165	Box-End Wrench, $\frac{11}{16}$ "
1166	Box-End Wrench, $\frac{3}{4}$ "
1167A	Box-End Wrench, $\frac{13}{16}$ "
1167	Box-End Wrench, $\frac{7}{8}$ "
1168	Box-End Wrench, $\frac{15}{16}$ "
1170	Box-End Wrench, $1\frac{1}{8}$ "
1171	Box-End Wrench, $1\frac{1}{4}$ "
1172	Box-End Wrench, $1\frac{1}{8}$ "
1173	Box-End Wrench, $1\frac{1}{4}$ "







ALL VULCAN BOX WRENCHES  
ARE HEAT-TREATED AFTER FORGING  
FOR MAXIMUM STRENGTH AND TOUGHNESS



STRONG, THIN BOX WALLS  
MAXIMUM OBSTRUCTION CLEARANCE

#### A SHORT 15° OFFSET BOX WRENCHES

Double hexagon openings and short length make these Box Wrenches ideal for working in close, restricted areas.

Opening Sizes	Stock No.	Small Head		Large Head		Lgth.
		Diam.	Thick.	Diam.	Thick.	
$\frac{3}{8}$ & $\frac{7}{16}$	6723	$\frac{19}{32}$	$\frac{1}{4}$	$\frac{11}{16}$	$\frac{5}{16}$	4 $\frac{1}{2}$
$\frac{7}{16}$ & $\frac{1}{2}$	6725	$\frac{43}{64}$	$\frac{5}{16}$	$\frac{3}{4}$	$\frac{21}{64}$	5 $\frac{1}{2}$
$\frac{1}{2}$ & $\frac{9}{16}$	6725B	$\frac{23}{32}$	$\frac{23}{64}$	$\frac{7}{8}$	$\frac{3}{8}$	5 $\frac{1}{2}$
$\frac{9}{16}$ & $\frac{5}{8}$	6727	$\frac{13}{16}$	$\frac{13}{32}$	$\frac{29}{32}$	$\frac{7}{16}$	6

#### B LONG 15° OFFSET BOX WRENCHES

Double hexagon Box Wrenches with 15° offset and long, slim handles for extra leverage. Opening sizes from  $\frac{3}{8}$ " through  $\frac{3}{4}$ ".

Opening Sizes	Stock No.	Small Head		Large Head		Lgth.
		Diam.	Thick.	Diam.	Thick.	
$\frac{3}{8}$ & $\frac{7}{16}$	7723	$\frac{37}{64}$	$\frac{1}{4}$	$\frac{21}{32}$	$\frac{5}{32}$	7 $\frac{3}{4}$
$\frac{7}{16}$ & $\frac{1}{2}$	7725B	$\frac{47}{64}$	$\frac{21}{64}$	$\frac{53}{64}$	$\frac{11}{32}$	8 $\frac{11}{16}$
$\frac{1}{2}$ & $\frac{9}{16}$	7729	$\frac{29}{32}$	$\frac{13}{32}$	1	$\frac{7}{16}$	10 $\frac{1}{8}$

#### C LONG OFFSET 12-Pt. BOX WRENCHES

New long, slender design with exceptional balance. Thin head walls permit use where clearance is extremely limited. Alloy steel, especially selected for greater strength and durability is used throughout. Wrench openings available from  $\frac{3}{8}$ " through  $1\frac{1}{2}$ ".

Opening Sizes	Stock No.	Small Head		Large Head		Lgth.
		Dia.	Thick.	Dia.	Thick.	
$\frac{3}{8}$ & $\frac{7}{16}$	8723	$\frac{37}{64}$	$\frac{1}{4}$	$\frac{21}{32}$	$\frac{5}{32}$	7 $\frac{3}{4}$
$\frac{7}{16}$ & $\frac{1}{2}$	8725	$\frac{47}{64}$	$\frac{21}{64}$	$\frac{53}{64}$	$\frac{11}{32}$	8 $\frac{11}{16}$
$\frac{1}{2}$ & $\frac{9}{16}$	8725B	$\frac{47}{64}$	$\frac{21}{64}$	$\frac{53}{64}$	$\frac{11}{32}$	8 $\frac{11}{16}$
$\frac{9}{16}$ & $\frac{5}{8}$	8727	$\frac{53}{64}$	$\frac{11}{32}$	$\frac{29}{32}$	$\frac{3}{8}$	9 $\frac{3}{8}$
$\frac{19}{32}$ & $1\frac{1}{16}$	8027	$\frac{29}{32}$	$\frac{3}{8}$	1	$\frac{13}{32}$	9 $\frac{3}{4}$
$\frac{5}{8}$ & $1\frac{1}{16}$	8727A	$\frac{29}{32}$	$\frac{3}{8}$	1	$\frac{13}{32}$	9 $\frac{3}{4}$
$\frac{5}{8}$ & $\frac{3}{4}$	8729	$\frac{29}{32}$	$\frac{13}{32}$	$\frac{13}{32}$	$\frac{7}{16}$	10 $\frac{1}{8}$
$1\frac{1}{16}$ & $\frac{3}{4}$	8029B	1	$\frac{13}{32}$	$\frac{13}{32}$	$\frac{7}{16}$	10 $\frac{1}{2}$
$\frac{3}{4}$ & $1\frac{1}{16}$	8731	$\frac{13}{16}$	$\frac{31}{64}$	$\frac{111}{64}$	$\frac{33}{64}$	11 $\frac{5}{8}$
$\frac{3}{4}$ & $\frac{7}{8}$	8731A	$\frac{13}{16}$	$\frac{15}{32}$	$\frac{111}{64}$	$\frac{1}{2}$	12
$\frac{23}{32}$ & $1\frac{1}{16}$	8031B	$\frac{13}{16}$	$\frac{31}{64}$	$\frac{111}{64}$	$\frac{33}{64}$	12 $\frac{1}{2}$
$\frac{13}{16}$ & $\frac{3}{8}$	8731B	$\frac{111}{64}$	$\frac{1}{2}$	$\frac{114}{64}$	$\frac{17}{32}$	12 $\frac{7}{8}$
$\frac{7}{8}$ & $1\frac{1}{16}$	8033A	$\frac{114}{64}$	$\frac{17}{32}$	$\frac{121}{64}$	$\frac{9}{16}$	13 $\frac{3}{8}$
$1\frac{1}{16}$ & 1	8033C	$\frac{114}{64}$	$\frac{17}{32}$	$\frac{119}{32}$	$\frac{5}{8}$	14 $\frac{3}{8}$
1 & $1\frac{1}{8}$	8735	$\frac{119}{32}$	$\frac{41}{64}$	$\frac{119}{16}$	$\frac{43}{64}$	16
$1\frac{1}{8}$ & $1\frac{1}{16}$	8735A	$\frac{119}{32}$	$\frac{41}{64}$	$\frac{119}{16}$	$\frac{23}{32}$	16 $\frac{5}{8}$
$1\frac{1}{8}$ & $1\frac{1}{4}$	8037	$\frac{119}{32}$	$\frac{11}{16}$	$\frac{125}{32}$	$\frac{3}{4}$	17 $\frac{1}{4}$
$1\frac{1}{4}$ & $1\frac{1}{2}$	8039	$\frac{125}{32}$	$\frac{3}{4}$	$\frac{23}{16}$	$\frac{13}{16}$	19 $\frac{1}{2}$
$1\frac{1}{2}$ & $1\frac{1}{2}$	8039A	$\frac{127}{32}$	$\frac{25}{32}$	$\frac{23}{16}$	$\frac{27}{32}$	20 $\frac{1}{2}$

#### D LONG OFFSET HEX BOX WRENCHES

Six point opening Box Wrenches are available in the most popular sizes as listed below. Nickel-chrome plating throughout.

Opening Sizes	Stock No.	Small Head		Large Head		Lgth.
		Dia.	Thick.	Dia.	Thick.	
$\frac{3}{8}$ & $\frac{7}{16}$	8723S	$\frac{37}{64}$	$\frac{1}{4}$	$\frac{21}{32}$	$\frac{5}{32}$	7 $\frac{3}{4}$
$\frac{1}{2}$ & $\frac{9}{16}$	8725BS	$\frac{47}{64}$	$\frac{21}{64}$	$\frac{53}{64}$	$\frac{11}{32}$	8 $\frac{11}{16}$
$\frac{5}{8}$ & $\frac{3}{4}$	8729S	$\frac{29}{32}$	$\frac{13}{32}$	$\frac{13}{16}$	$\frac{7}{16}$	10 $\frac{1}{8}$

#### E MIDGET OFFSET BOX WRENCHES

Double offset design clears obstructions where working space is limited. Ideal for carburetor and ignition work. Six-point.

Opening Sizes	Stock No.	Small Head		Large Head		Lgth.
		Dia.	Thick.	Dia.	Thick.	
$\frac{3}{16}$ & $\frac{13}{64}$	1150	$\frac{19}{64}$	$\frac{1}{8}$	$\frac{5}{16}$	$\frac{9}{64}$	2 $\frac{7}{8}$
$\frac{1}{32}$ & $\frac{15}{64}$	1151	$\frac{21}{64}$	$\frac{5}{32}$	$\frac{23}{64}$	$\frac{11}{64}$	3 $\frac{1}{8}$
$\frac{1}{4}$ & $\frac{1}{2}$	1152	$\frac{3}{8}$	$\frac{11}{32}$	$\frac{13}{32}$	$\frac{3}{16}$	3 $\frac{3}{8}$
$\frac{5}{16}$ & $1\frac{1}{32}$	1153	$\frac{29}{64}$	$\frac{7}{32}$	$\frac{1}{2}$	$\frac{1}{4}$	3 $\frac{3}{4}$

#### F SHORT OFFSET BOX WRENCHES

Double offset 12-point opening Short Box Wrenches from  $\frac{3}{8}$ " through  $1\frac{1}{16}$ ".

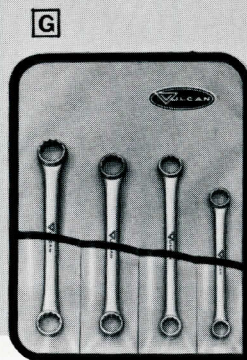
Opening Sizes	Stock No.	Small Head		Large Head		Lgth.
		Dia.	Thick.	Dia.	Thick.	
$\frac{3}{8}$ & $\frac{7}{16}$	9723	$\frac{19}{32}$	$\frac{1}{4}$	$\frac{5}{8}$	$\frac{9}{32}$	4 $\frac{1}{2}$
$\frac{7}{16}$ & $\frac{1}{2}$	9725	$\frac{43}{64}$	$\frac{5}{16}$	$\frac{11}{16}$	$\frac{21}{64}$	5
$\frac{1}{2}$ & $\frac{9}{16}$	9725B	$\frac{23}{32}$	$\frac{23}{64}$	$\frac{13}{16}$	$\frac{11}{32}$	5 $\frac{1}{2}$
$\frac{9}{16}$ & $\frac{5}{8}$	9727	$\frac{13}{16}$	$\frac{13}{32}$	$\frac{29}{32}$	$\frac{3}{8}$	6
$\frac{5}{8}$ & $\frac{3}{4}$	9729	$\frac{29}{32}$	$\frac{13}{32}$	$\frac{15}{16}$	$\frac{7}{16}$	6 $\frac{1}{4}$
$1\frac{1}{16}$ & $1\frac{1}{8}$	9029C	$\frac{31}{32}$	$\frac{7}{16}$	$\frac{13}{16}$	$\frac{1}{2}$	6 $\frac{1}{2}$

#### G SHORT 45° OFFSET BOX WRENCHES

Extra deep 45° offset Box Wrenches are designed to clear unusual obstructions.

Opening Sizes	Stock No.	Small Head		Large Head		Lgth.
		Dia.	Thick.	Dia.	Thick.	
$\frac{3}{8}$ & $\frac{7}{16}$	9723-0	$\frac{19}{32}$	$\frac{19}{64}$	$\frac{21}{32}$	$\frac{5}{16}$	4 $\frac{1}{2}$
$\frac{7}{16}$ & $\frac{1}{2}$	9725-0	$\frac{21}{32}$	$\frac{5}{16}$	$\frac{47}{64}$	$\frac{21}{64}$	5
$\frac{1}{2}$ & $\frac{9}{16}$	9725B-0	$\frac{47}{64}$	$\frac{23}{64}$	$\frac{53}{64}$	$\frac{3}{8}$	5 $\frac{1}{2}$
$\frac{9}{16}$ & $\frac{5}{8}$	9727-0	$\frac{53}{64}$	$\frac{13}{32}$	$\frac{29}{32}$	$\frac{7}{16}$	6

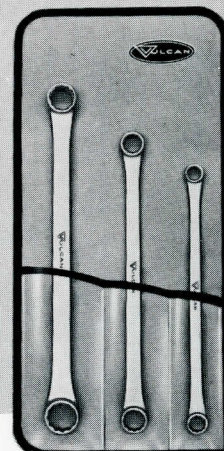
#### EXTRA SAFE SURE-GRIP HANDLES



G LBAS-4K 4 SHORT 15° BOX WRS. in K-41 Kit  
LBAS-4 4 SHORT 15° BOX WRS. without Kit

Stock No.	Description
6723	Box Wrench, $\frac{3}{8}$ " & $\frac{7}{16}$ "
6725	Box Wrench, $\frac{7}{16}$ " & $\frac{1}{2}$ "
6725B	Box Wrench, $\frac{1}{2}$ " & $\frac{9}{16}$ "
6727	Box Wrench, $\frac{9}{16}$ " & $\frac{5}{8}$ "

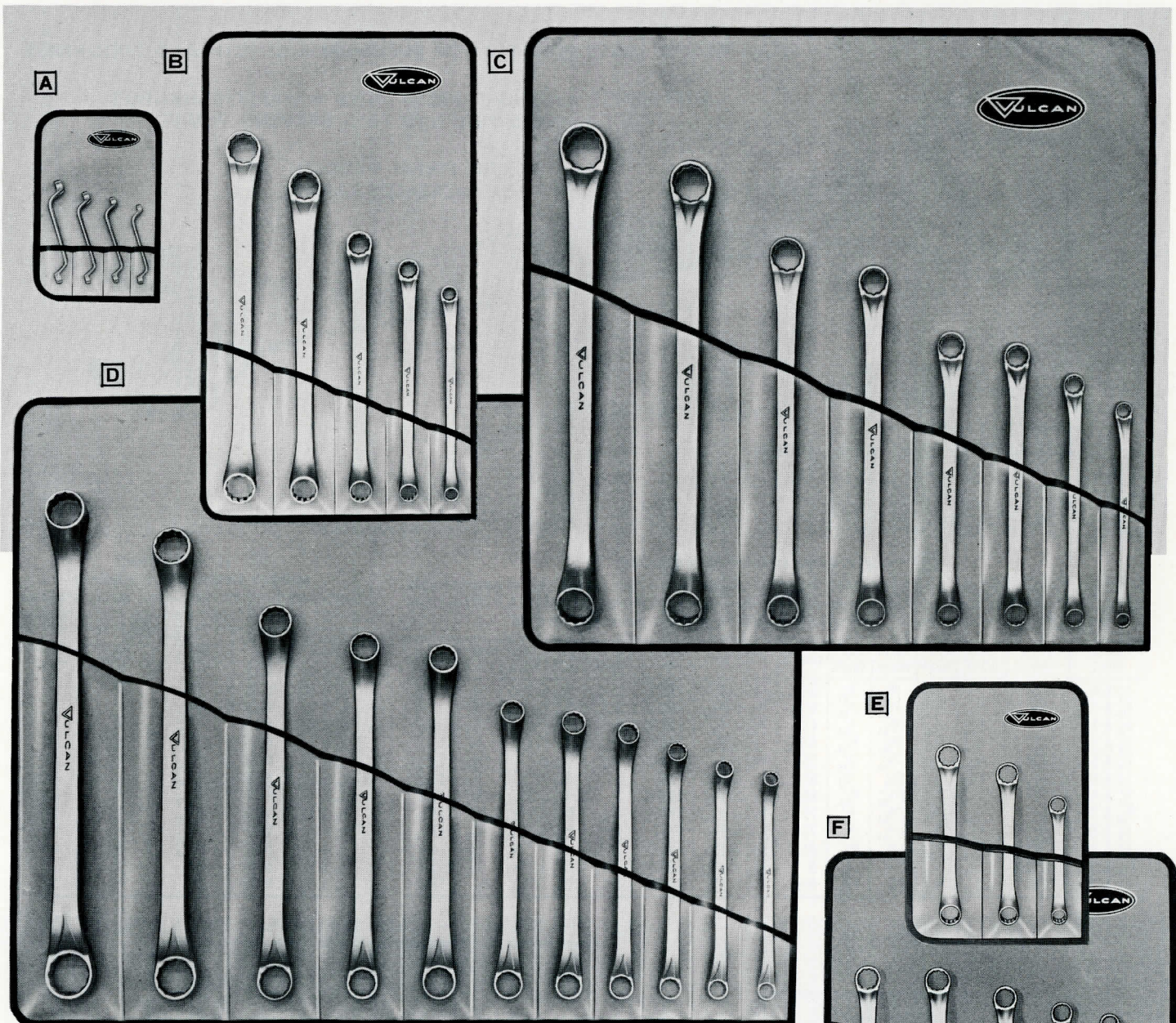
THESE HANDY  
LONG OR SHORT  
15° BOX WRENCH  
SETS IN KITS  
COVER THE  
MOST POPULAR  
OPENING SIZES



H LBA-3K 3 LONG 15° BOX WRS. in K-32 Kit  
LBA-3 3 LONG 15° BOX WRS. without Kit

Stock No.	Description
7723	Box Wrench, $\frac{3}{8}$ " & $\frac{7}{16}$ "
7725B	Box Wrench, $\frac{1}{2}$ " & $\frac{9}{16}$ "
7729	Box Wrench, $\frac{5}{8}$ " & $\frac{3}{4}$ "





**A** LBM-4K 4 MIDGET BOX WRS. in K-42 Kit  
LBM-4 4 MIDGET BOX WRS. without Kit

A complete set of 6-point Midget Offset Box Wrenches for small, intricate work. Complete specifications on page 34.

Stock No.	Description
1150	Wrench, $\frac{3}{16}$ " x $\frac{13}{64}$ " .....
1151	Wrench, $\frac{1}{32}$ " x $\frac{15}{64}$ " .....
1152	Wrench, $\frac{1}{4}$ " x $\frac{3}{32}$ " .....
1153	Wrench, $\frac{5}{16}$ " x $\frac{11}{32}$ " .....

**B** LB-5K 5 OFFSET BOX WRS. in K-51 Kit  
LB-5 5 OFFSET BOX WRS. without Kit

Long Double Offset Box Wrenches from  $\frac{3}{8}$ " through  $\frac{15}{16}$ " in double hexagon openings.

Complete specifications of these wrenches listed at "C" on page 34.

Stock No.	Description
8723	Wrench, $\frac{3}{8}$ " x $\frac{7}{16}$ " .....
8725B	Wrench, $\frac{1}{2}$ " x $\frac{9}{16}$ " .....
8727A	Wrench, $\frac{5}{8}$ " x $\frac{11}{16}$ " .....
8731	Wrench, $\frac{3}{4}$ " x $\frac{13}{16}$ " .....
8033A	Wrench, $\frac{7}{8}$ " x $\frac{15}{16}$ " .....

**C** LB-8K 8 OFFSET BOX WRS. in K-81 Kit  
LB-8 8 OFFSET BOX WRS. without Kit

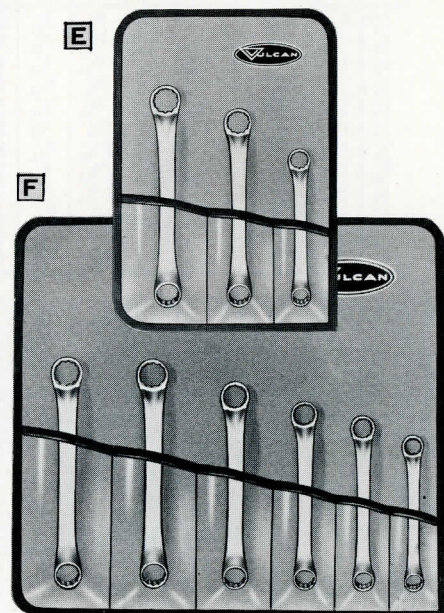
12-Point wrench openings from  $\frac{3}{8}$ " through  $1\frac{1}{4}$ " fit nut and bolt sizes  $\frac{1}{4}$ " through  $\frac{3}{4}$ ".

Stock No.	Description	Stock No.	Description
8723	Wr., $\frac{3}{8}$ " x $\frac{7}{16}$ "	8031B	Wr., $\frac{25}{32}$ " x $\frac{13}{16}$ "
8725B	Wr., $\frac{1}{2}$ " x $\frac{9}{16}$ "	8033A	Wr., $\frac{7}{8}$ " x $\frac{15}{16}$ "
8027	Wr., $\frac{19}{32}$ " x $\frac{11}{16}$ "	8735	Wr., 1" x $1\frac{1}{8}$ "
8729	Wr., $\frac{5}{8}$ " x $\frac{3}{4}$ "	8037	Wr., $1\frac{1}{16}$ " x $1\frac{1}{4}$ "

**D** LB-11K LONG OFFSET BOX in K-111 Kit  
LB-11 LONG OFFSET BOX without Kit

A complete set of finest quality double hex Box Wrenches to help you earn more money through better work in less time.

Stock No.	Description	Stock No.	Description
8723	Wr., $\frac{3}{8}$ " x $\frac{7}{16}$ "	8731A	Wr., $\frac{3}{4}$ " x $\frac{13}{16}$ "
8725	Wr., $\frac{1}{2}$ " x $\frac{9}{16}$ "	8031B	Wr., $\frac{25}{32}$ " x $\frac{13}{16}$ "
8725B	Wr., $\frac{1}{2}$ " x $\frac{9}{16}$ "	8033A	Wr., $\frac{7}{8}$ " x $\frac{15}{16}$ "
8727	Wr., $\frac{5}{8}$ " x $\frac{11}{16}$ "	8735	Wr., 1" x $1\frac{1}{8}$ "
8727A	Wr., $\frac{5}{8}$ " x $\frac{11}{16}$ "	8037	Wr., $1\frac{1}{16}$ " x $1\frac{1}{4}$ "
8729	Wr., $\frac{5}{8}$ " x $\frac{3}{4}$ "		



**E** LBS-3K 3 SHORT BOX WRS. in K-31 Kit  
LBS-3 3 SHORT BOX WRS. without Kit

Stock No.	Description
9723	Box Wrench, $\frac{3}{8}$ " x $\frac{7}{16}$ " .....
9725B	Box Wrench, $\frac{1}{2}$ " x $\frac{9}{16}$ " .....
9729	Box Wrench, $\frac{5}{8}$ " x $\frac{3}{4}$ " .....

**F** LBS-6K 6 SHORT BOX WRS. in K-61 Kit  
LBS-6 6 SHORT BOX WRS. without Kit

Stock No.	Description
9723	Box Wrench, $\frac{3}{8}$ " x $\frac{7}{16}$ " .....
9725	Box Wrench, $\frac{1}{2}$ " x $\frac{9}{16}$ " .....
9725B	Box Wrench, $\frac{1}{2}$ " x $\frac{9}{16}$ " .....
9727	Box Wrench, $\frac{5}{8}$ " x $\frac{3}{4}$ " .....
9729	Box Wrench, $\frac{5}{8}$ " x $\frac{3}{4}$ " .....
9029C	Box Wrench, $\frac{11}{16}$ " x $\frac{13}{16}$ " .....





HEAT-TREATED AFTER FORGING FOR MAXIMUM STRENGTH AND TOUGHNESS

SLIM HEADS • LONG TAPERED JAWS • NARROW HANDLES  
FOR BALANCED FEEL AND FIRM GRIPPING POWERSATIN FINISH HANDLES  
FOR INCREASED SAFETY

A

15°-75° ANGLE  
MIDGET WRENCHESTHIN AND SLIM  
UNUSUALLY STRONG AND TOUGH

B

## A DOUBLE HEAD OPEN END WRENCHES

Slimmer heads, longer and narrower handles make these wrenches more serviceable where clearance is limited. The Selected Alloy Steel from which these VULCAN Wrenches are drop-forged assures more than ample strength for the severest service.

Opening Sizes	Stock No.	Small Head		Large Head		Length	Opening Sizes	Stock No.	Small Head		Large Head		Length
		Width	Thick	Width	Thick				Width	Thick	Width	Thick	
1/4 & 5/16	1020	1/2	5/32	3/8	5/32	3 13/16	3/4 & 7/8	1731A	1 1/32	1 1/32	1 1/4	1 1/32	9 3/4
5/16 & 11/32	1720	3/8	5/32	25/32	3/16	4 1/4	25/32 & 13/16	1031B	1 1/32	1 1/32	1 1/4	1 1/32	9 3/4
5/16 & 3/8	1721	3/8	3/16	25/32	3/16	4 1/4	13/16 & 7/8	1731B	1 1/32	1 1/32	1 1/4	1 1/32	9 3/4
3/8 & 1/2	1723	47/64	13/64	53/64	13/64	4 11/16	7/8 & 15/16	1033A	1 1/4	3/8	1 3/4	3/8	10 1/2
1/2 & 5/8	1725	53/64	7/32	15/16	7/32	5 1/8	15/16 & 1	1033C	1 3/4	13/32	2	13/32	11 3/8
5/8 & 1 1/8	1725B	15/16	1/4	1 1/8	1/4	6 1/4	1 & 1 1/8	1735	2	7/16	2 7/16	7/16	12 1/4
1 1/8 & 1 1/4	1727	1 1/16	1 1/16	1 1/4	1 1/4	6 7/8	1 1/8 & 1 1/2	1036B	2	7/16	2 7/16	7/16	12 1/4
1 1/4 & 1 1/2	1027	1 1/16	9/32	1 1/4	9/32	7 1/2	1 1/4 & 1 1/2	1037	2 7/16	15/32	2 29/64	15/32	13 1/4
1 1/2 & 1 3/4	1027B	1 1/16	9/32	1 1/4	9/32	7 1/2	1 1/2 & 1 3/4	1737	2 7/16	15/32	2 29/64	15/32	13 1/4
1 3/4 & 2	1729	1 1/16	9/32	1 1/4	9/32	8 1/4	1 3/4 & 2	1039B	2 11/32	1/2	2 11/16	1/2	14 3/8
2 & 2 1/4	1029B	1 1/16	9/32	1 1/4	9/32	9	2 & 2 1/4	1039C	2 3/4	17/32	2 13/16	17/32	15 1/2
2 1/4 & 2 1/2	1731	1 1/32	11/32	1 1/4	11/32	9 3/4	2 1/2 & 2 5/8	1041B	2 3/4	9/16	3 3/4	9/16	16 5/8

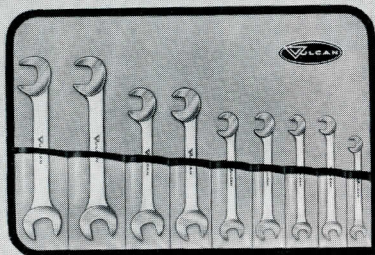
## B 15°-75° ANGLE

## MIDGET OPEN END WRENCHES

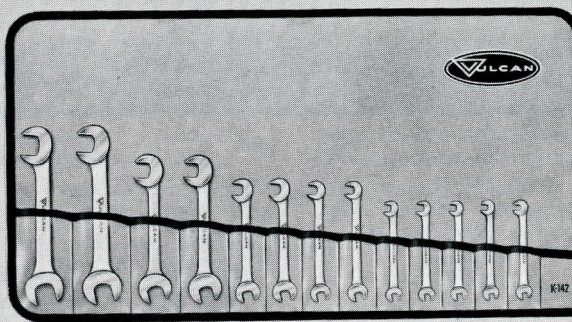
Same opening at both ends with heads set at 15° and 75° for working convenience.

Opening Sizes	Stock No.	Either Head		Length
		Width	Thick	
3/16 & 3/8	1112	1/2	3/32	3
13/64 & 13/64	1113	1/2	3/32	3
7/32 & 7/32	1114	1/2	3/32	3
15/64 & 15/64	1115	1/2	3/32	3
1/4 & 1/4	1116	1/2	3/32	3
5/32 & 5/32	1118	37/64	1/8	3 3/4
3/16 & 3/16	1120	37/64	1/8	3 3/4
11/32 & 11/32	1122	47/64	1/8	3 3/4
3/8 & 3/8	1124	47/64	1/8	3 3/4
7/16 & 7/16	1128	63/64	5/32	4 1/2
1/2 & 1/2	1132	63/64	5/32	4 1/2
5/8 & 5/8	1136	15/32	3/16	5 1/2
5/8 & 5/8	1140	15/32	3/16	5 1/2

A



B

A LA-9K 9 15°-75° ANGLE WRS. in K-91 Kit  
LA-9 9 15°-75° ANGLE WRS. without Kit

An ideal set of small wrenches with nut turning capacity from 1/4" through 5/8".

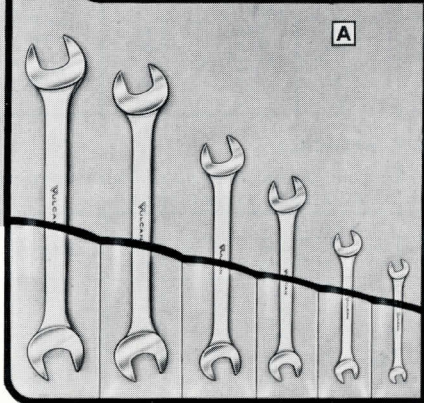
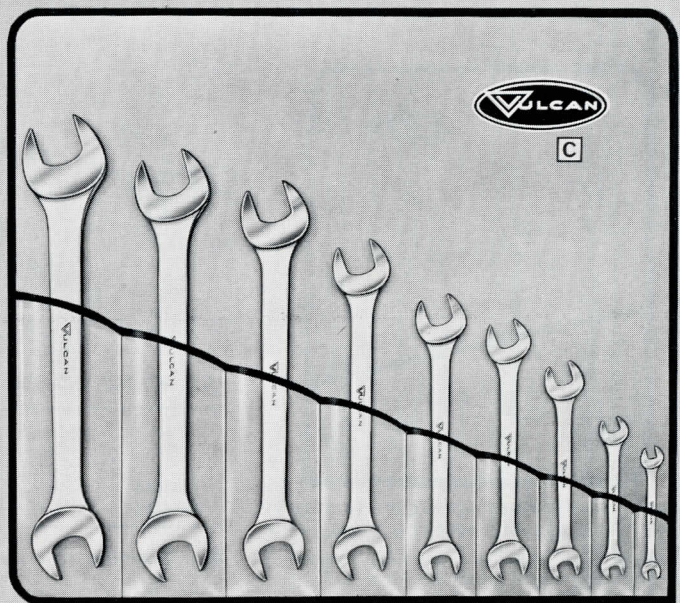
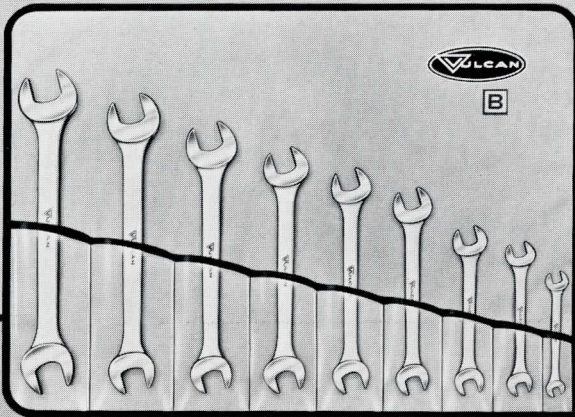
Stock No.	Description
1116	Wrench, 1/4" x 1/4"
1118	Wrench, 5/32" x 5/32"
1120	Wrench, 3/16" x 3/16"
1122	Wrench, 11/32" x 11/32"
1124	Wrench, 3/8" x 3/8"
1128	Wrench, 7/16" x 7/16"
1132	Wrench, 1/2" x 1/2"
1136	Wrench, 5/8" x 5/8"
1140	Wrench, 5/8" x 5/8"

B LA-13K 13 15°-75° ANGLE MIDGET OPEN END WRENCHES in K-142 Kit  
LA-13 13 15°-75° ANGLE MIDGET OPEN END WRENCHES without Kit

Nut turning capacity from 3/16" through 5/8". The 15° and 75° heads allow you to work in close areas where other wrenches cannot provide the necessary turning radius.

Stock No.	Description	Stock No.	Description
1112	Wrench, 3/16" x 3/16"	1122	Wrench, 11/32" x 11/32"
1113	Wrench, 13/64" x 13/64"	1124	Wrench, 3/8" x 3/8"
1114	Wrench, 7/32" x 7/32"	1128	Wrench, 7/16" x 7/16"
1115	Wrench, 15/64" x 15/64"	1132	Wrench, 1/2" x 1/2"
1116	Wrench, 1/4" x 1/4"	1136	Wrench, 5/8" x 5/8"
1118	Wrench, 5/32" x 5/32"	1140	Wrench, 5/8" x 5/8"
1120	Wrench, 3/16" x 3/16"		





**A** LE-6K 6 OPEN END WRS. in K-62 Kit  
LE-6 6 OPEN END WRS. without Kit

Stock No.	Description
1020	Wrench, $\frac{1}{4}$ " x $\frac{5}{16}$ "
1723	Wrench, $\frac{3}{8}$ " x $\frac{7}{16}$ "
1725B	Wrench, $\frac{1}{2}$ " x $\frac{9}{16}$ "
1027B	Wrench, $\frac{5}{8}$ " x $1\frac{1}{16}$ "
1731	Wrench, $\frac{3}{4}$ " x $1\frac{1}{16}$ "
1033A	Wrench, $\frac{7}{8}$ " x $1\frac{5}{16}$ "

**B** LE-90K 9 OPEN END WRS. in K-92 Kit  
LE-90 9 OPEN END WRS. without Kit

Nine wrenches featuring the finest material, construction and design. Balance, "feel" and strength for the toughest jobs.

Stock No.	Description
1020	Wrench, $\frac{1}{4}$ " x $\frac{5}{16}$ "
1723	Wrench, $\frac{3}{8}$ " x $\frac{7}{16}$ "
1725	Wrench, $\frac{7}{16}$ " x $\frac{1}{2}$ "
1725B	Wrench, $\frac{1}{2}$ " x $\frac{9}{16}$ "
1727	Wrench, $\frac{9}{16}$ " x $\frac{5}{8}$ "
1027	Wrench, $\frac{19}{32}$ " x $1\frac{1}{16}$ "
1729	Wrench, $\frac{5}{8}$ " x $\frac{3}{4}$ "
1031B	Wrench, $\frac{25}{32}$ " x $1\frac{1}{16}$ "
1731A	Wrench, $\frac{3}{4}$ " x $\frac{7}{8}$ "

**C** LE-9K 9 OPEN END WRS. in K-93 Kit  
LE-9 9 OPEN WRS. without Kit

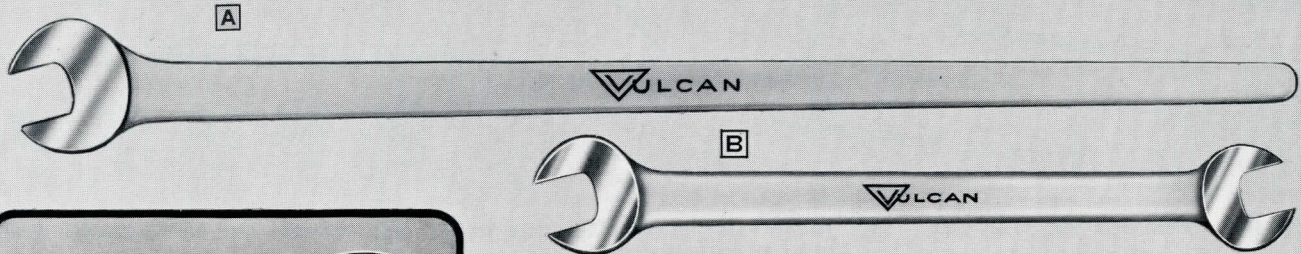
Opening sizes from  $\frac{1}{4}$ " through  $1\frac{1}{4}$ " in nine perfectly matched Open End Wrenches. Alloy Steel, polished heads, chrome plated.

Stock No.	Description
1020	Wrench, $\frac{1}{4}$ " x $\frac{5}{16}$ "
1723	Wrench, $\frac{3}{8}$ " x $\frac{7}{16}$ "
1725B	Wrench, $\frac{1}{2}$ " x $\frac{9}{16}$ "
1027	Wrench, $\frac{19}{32}$ " x $1\frac{1}{16}$ "
1729	Wrench, $\frac{5}{8}$ " x $\frac{3}{4}$ "
1731B	Wrench, $\frac{13}{16}$ " x $\frac{7}{8}$ "
1033C	Wrench, $\frac{15}{16}$ " x 1"
1735	Wrench, 1" x $1\frac{1}{8}$ "
1037	Wrench, $1\frac{1}{16}$ " x $1\frac{1}{4}$ "

THIN HEADS • EXTRA LONG HANDLES



WITH THAT FINE FIT, FEEL and FINISH



**A** SINGLE HEAD TAPPET WRENCHES

Long, slim Single End Tappet Wrenches of drop-forged Alloy Steel.

Opening Size	Stock No.	Head		Length
		Width	Thick	
$\frac{7}{16}$	A-100	$1\frac{1}{4}$ "	$\frac{3}{16}$ "	15
$\frac{1}{2}$	A-100A	$1\frac{1}{4}$ "	$\frac{3}{16}$ "	15
$\frac{9}{16}$	A-100B	$1\frac{1}{4}$ "	$\frac{3}{16}$ "	15

**C** LT-8K 8 TAPPET WRS. in K-83 Kit  
LT-8 8 TAPPET WRS. without Kit

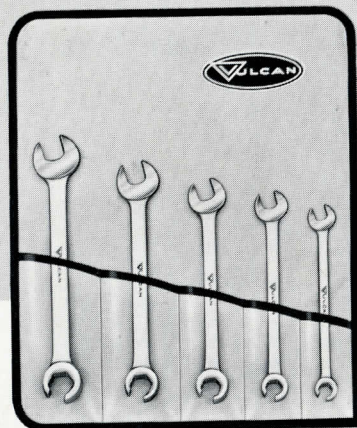
Qty.	Stock No.	Description
2	1090	Wrenches, $\frac{7}{16}$ " & $\frac{1}{2}$ "
2	1090D	Wrenches, $\frac{1}{2}$ " & $\frac{9}{16}$ "
2	1092F	Wrenches, $\frac{5}{8}$ " & $1\frac{1}{16}$ "
2	1094	Wrenches, $\frac{3}{4}$ " & $\frac{7}{8}$ "

**B** DOUBLE HEAD TAPPET WRENCHES

Double Head Tappet Wrenches with openings set at  $15^\circ$  from the center-line of the handle. Drop-forged from Alloy Steel, these Wrenches are fully heat-treated and chrome-plated over nickel.

Opening Sizes	Stock No.	Small Head		Large Head		Length
		Width	Thick	Width	Thick	
$\frac{7}{16}$ & $\frac{1}{2}$	1090	$1\frac{1}{4}$	$\frac{5}{32}$	$1\frac{1}{16}$	$\frac{5}{32}$	8
$\frac{1}{2}$ & $\frac{9}{16}$	1090D	$1\frac{1}{4}$	$\frac{5}{32}$	$1\frac{1}{16}$	$\frac{5}{32}$	8
$\frac{5}{8}$ & $1\frac{1}{16}$	1092F	$1\frac{1}{4}$	$\frac{3}{16}$	$1\frac{1}{2}$	$\frac{3}{16}$	8
$\frac{3}{4}$ & $\frac{7}{8}$	1094	$1\frac{1}{32}$	$\frac{7}{32}$	$1\frac{3}{4}$	$\frac{7}{32}$	9

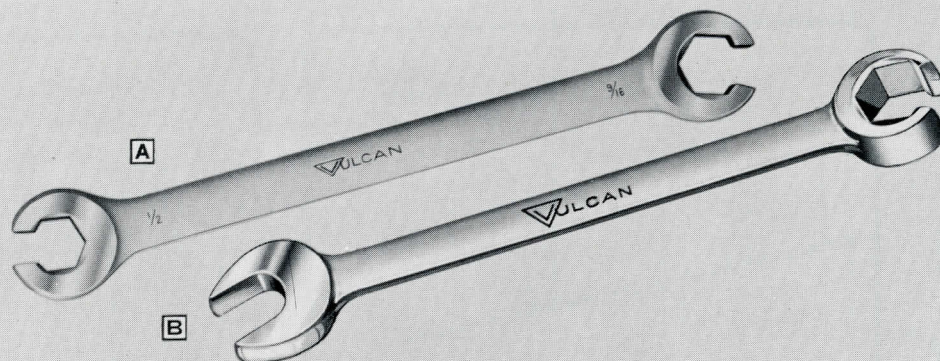




**LCF-5K 5 FLARE NUT WRENCHES in K-52 Kit**  
**LCF-5 5 FLARE NUT WRENCHES without Kit**

A set of Combination Flare Nut Wrenches, having split box opening and 15° open end offset at either end. Both openings are the same size. These five wrenches will handle various fittings for tube sizes as follows:  $\frac{1}{8}$ ",  $\frac{3}{16}$ ",  $\frac{1}{4}$ ",  $\frac{5}{16}$ ",  $\frac{3}{8}$ ".

Stock No.	Description
1312	Wrench, $\frac{3}{8}$ "
1314	Wrench, $\frac{1}{2}$ "
1316	Wrench, $\frac{5}{8}$ "
1318	Wrench, $\frac{7}{8}$ "
1320	Wrench, $1\frac{1}{8}$ "



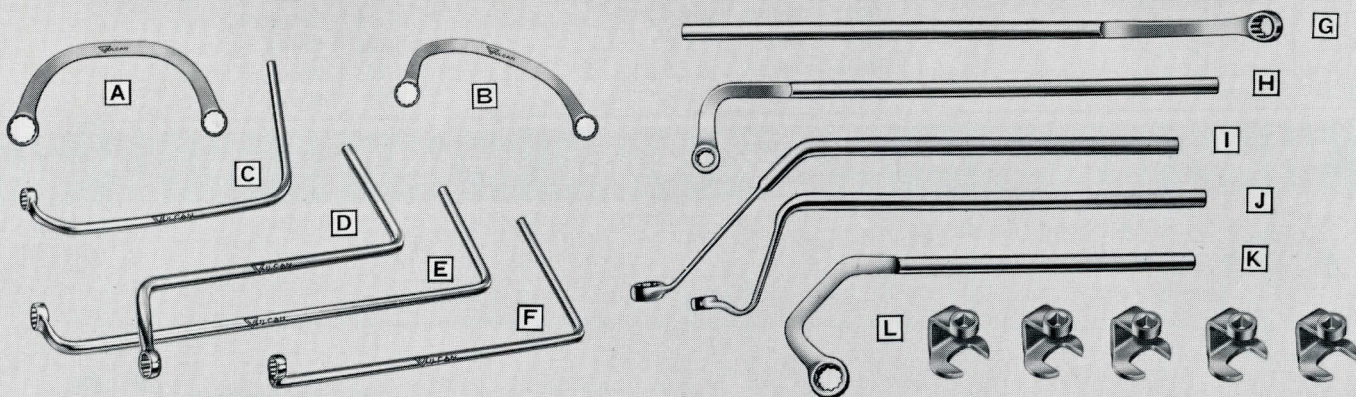
**A DOUBLE END SPLIT BOX FLARE NUT WRENCHES**

Stock No.	Opening Sizes	Small End			Large End			Overall Length
		Head Diam.	Head Thick.	Tube Size	Head Diam.	Head Thick.	Tube Size	
FW-1214	$\frac{3}{8}$ & $\frac{7}{16}$	$\frac{53}{64}$	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{27}{32}$	$\frac{11}{32}$	$\frac{3}{16}$	$5\frac{11}{16}$
FW-1618	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{55}{64}$	$\frac{11}{32}$	$\frac{1}{4}$	$\frac{63}{64}$	$\frac{23}{64}$	$\frac{5}{16}$	$6\frac{1}{2}$

**B COMBINATION OPEN END-SPLIT BOX FLARE NUT WRENCHES**

Split box-end has a 6-point opening offset at 15° from plane of handle. Tube opening slot is 22½° to the axis of the handle. Alloy steel, heat-treated, chrome plate.

Stock No.	Open End		Split Box End				Length
	Opening Size	Head Thickness	Opening Size	Outside Diameter	Head Thickness	Max. Tube Clearance	
1312	$\frac{3}{8}$	$\frac{3}{16}$	$\frac{3}{8}$	$\frac{21}{32}$	$\frac{5}{16}$	$\frac{1}{4}$	$5\frac{5}{8}$
1314	$\frac{7}{16}$	$\frac{13}{64}$	$\frac{7}{16}$	$\frac{25}{32}$	$\frac{11}{32}$	$\frac{9}{32}$	6
1316	$\frac{1}{2}$	$\frac{7}{32}$	$\frac{1}{2}$	$\frac{29}{32}$	$\frac{7}{16}$	$\frac{3}{8}$	$6\frac{3}{8}$
1318	$\frac{9}{16}$	$\frac{15}{64}$	$\frac{9}{16}$	$\frac{31}{32}$	$\frac{7}{16}$	$\frac{7}{16}$	$6\frac{7}{8}$
1320	$\frac{5}{8}$	$\frac{1}{4}$	$\frac{5}{8}$	$1\frac{1}{64}$	$\frac{1}{2}$	$1\frac{1}{32}$	$7\frac{5}{8}$
1322	$1\frac{1}{16}$	$\frac{5}{16}$	$1\frac{1}{16}$	$1\frac{19}{32}$	$\frac{9}{16}$	$\frac{9}{16}$	$8\frac{3}{4}$
1324	$\frac{3}{4}$	$\frac{5}{16}$	$\frac{3}{4}$	$1\frac{1}{32}$	$\frac{9}{16}$	$\frac{9}{16}$	$8\frac{3}{4}$



**A 1960 HALF MOON BOX WR., 9/16 - 5/8"**

For starter and manifold nuts on Chrysler built cars. Also, will service manifold and starter nuts on most other cars.

**B 1961 HALF MOON BOX WR., 5/8" - 3/4"**

For starter nuts on Chevrolets. Also useful for starters on many other passenger cars. Drop-forged, chrome-nickel plate.

**C TU-916 1/2" 12-PT. DISTRIBUTOR WR. LINCOLN - FORD - MERCURY**

Handle is offset to clear obstructions and increase safety. Overall length 11¾".

**D TU-818 9/16" 12-PT. DISTRIBUTOR WR. BUICK - CHEVROLET**

Head is tapered for better clearance and easier operation. 4½" offset, 10" overall.

**E TU-618 9/16" 12-PT. DISTRIBUTOR WR. PONTIAC - OLDSMOBILE**

Tool is 16" long. Offset will easily clear distributor and fire wall obstructions.

**F TU-716 1/2" 12-PT. DISTRIBUTOR WR. CHRYSLER - DODGE - DE SOTO**

12 inch length clears distributor wires with air filter removed. 5" long handle.

**G WA-224 3/4" CASTER-CAMBER WRENCH**  
 For adjusting caster and camber on ball joint suspensions. Length 18".

**H WA-122 11/16" CASTER-CAMBER WR.**  
 For caster-camber adjustments on Buick Special ball joint suspension. Length approx., 20". ¼" 12-point opening.

**I WA-128 7/8" CASTER-CAMBER WRENCH**  
 For Buick, Oldsmobile and Cadillac ball joint caster-camber adjustments. Lgth. 18".

**J WA-124 3/4" CASTER-CAMBER WRENCH**  
 12-point ¾" opening for Ford, Mercury and Pontiac caster-camber adjustments. Length, 18½" approx.

**K WA-130 15/16" CASTER-CAMBER WR.**  
 For Nash and Rambler ball joint caster-camber adjustments. ¼" 12-point opening. Length, approximately 16".

**L CASTER-CAMBER "U" TYPE WRENCHES**  
 Throat depth and clearance of the "U" designed to fit all cars requiring this type of adjusting wrench. ½" square drive for use with ½" drive handles.

**WA-40E** 1¼" opening for Pontiacs  
**WA-42E** 1½" opening for Fords  
**WA-44E** 1¾" for Cadillac, Olds.  
**WA-46E** 1⅞" for Chrysler, Hudson  
**WA-48E** 2" opening for 1952 Ford.



**A LOCKING ADJUSTABLE WRENCHES**

Only a flick of the thumb or finger will instantly lock or unlock these wrenches, at any desired opening. Exclusive D-Slot.

Covered by U.S.A. Patent 2719449

Size Inch	Stock No.	Capacity	Thickness Head	
			Tip	Extreme
6	6L	$\frac{3}{4}$	$\frac{7}{32}$	$\frac{3}{8}$
8	8L	1	$\frac{17}{64}$	$\frac{1}{2}$
10	10L	$1\frac{1}{8}$	$\frac{23}{64}$	$\frac{19}{32}$
12	12L	$1\frac{5}{16}$	$\frac{15}{32}$	$\frac{23}{32}$
15	15L	$1\frac{3}{4}$	$\frac{19}{32}$	$\frac{31}{32}$

**B REGULAR ADJUSTABLE WRENCHES**

Exclusive design of the square shoulders on the shank portion of the sliding jaw provide maximum and positive bearing against working stress. Customary wedging and spreading action is eliminated. Drop-forged, heat-treated, fully chrome plated.

Size Inch	Stock No.	Capacity	Thickness Head	
			Tip	Extreme
18	18	$2\frac{1}{16}$	$\frac{23}{32}$	$1\frac{3}{8}$
24	24	$2\frac{7}{16}$	$\frac{7}{8}$	$1\frac{3}{8}$

**C BLACK ADJUSTABLE WRENCHES**

The same D-Slot Design for added safety and strength is used in all VULCAN Adjustable Wrenches. Black Oxide finish.

Size Inch	Stock No.	Capacity	Thickness Head	
			Tip	Extreme
4	4B	$\frac{1}{2}$	$\frac{3}{64}$	$\frac{3}{16}$
6	6B	$\frac{3}{4}$	$\frac{7}{32}$	$\frac{3}{8}$
8	8B	1	$\frac{17}{64}$	$\frac{1}{2}$
10	10B	$1\frac{1}{8}$	$\frac{23}{64}$	$\frac{19}{32}$
12	12B	$1\frac{5}{16}$	$\frac{15}{32}$	$\frac{23}{32}$
15	15B	$1\frac{3}{4}$	$\frac{19}{32}$	$\frac{31}{32}$
18	18B	$2\frac{1}{16}$	$\frac{23}{32}$	$1\frac{3}{8}$

**REPLACEMENT PARTS****FOR LOCKING ADJUSTABLE WRENCHES**

Parts Assembly: One ea. Knurl, Pin, Ring.

Stock No.	Descrip.	Stock No.	Description	Fits No.
6LJ	Jaw only	6LPA	Knurl, Pin, Ring	6L
8LJ	Jaw only	8LPA	Knurl, Pin, Ring	8L
10LJ	Jaw only	10LPA	Knurl, Pin, Ring	10L
12LJ	Jaw only	12LPA	Knurl, Pin, Ring	12L
15LJ	Jaw only	15LPA	Knurl, Pin, Ring	15L

**REPLACEMENT PARTS****FOR REGULAR ADJUSTABLE WRENCHES**

Parts Assembly: One ea. Knurl, Pin, Spring.

Stock No.	Description	Fits No.
18J	Jaw only.....	18
18PA	Parts—Knurl, Pin, Spring....	18
24J	Jaw only.....	24
24PA	Parts—Knurl, Pin, Spring....	24

**REPLACEMENT PARTS****FOR BLACK ADJUSTABLE WRENCHES**

Parts Assembly: One ea. Knurl, Pin, Spring.

Stock No.	Descrip.	Stock No.	Description	Fits No.
4BJ	Jaw only	4BPA	Knurl, Pin, Spring	4B
6BJ	Jaw only	6BPA	Knurl, Pin, Spring	6B
8BJ	Jaw only	8BPA	Knurl, Pin, Spring	8B
10BJ	Jaw only	10BPA	Knurl, Pin, Spring	10B
12BJ	Jaw only	12BPA	Knurl, Pin, Spring	12B
15BJ	Jaw only	15BPA	Knurl, Pin, Spring	15B
18BJ	Jaw only	18BPA	Knurl, Pin, Spring	18B

**A HEAVY DUTY ADJUSTABLE PIPE WRENCHES**

Heavy Duty Pipe Wrenches designed and built to take the roughest treatment. You'll like the better balanced "feel" and fast, easy adjustment. Patented double-action spring for safer, more positive grip. Milled steel jaws are triple heat-treated.

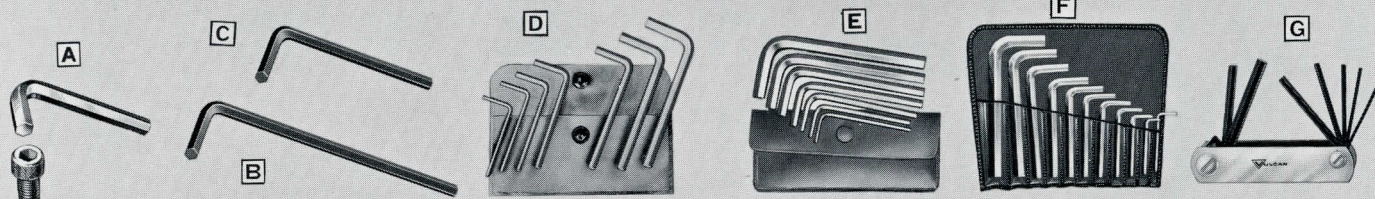
Size Inches	Stock No.	Capacity	Length	Size Inches	Stock No.	Capacity	Length	Size Inches	Stock No.	Capacity	Length
6	PW-6	$\frac{1}{8}$ - $\frac{3}{4}$	6	12	PW-12	$\frac{1}{8}$ -2	12	24	PW-24	$\frac{1}{4}$ -3	24
8	PW-8	$\frac{1}{8}$ -1	8	14	PW-14	$\frac{1}{4}$ -2	14	36	PW-36	$\frac{1}{4}$ -4 $\frac{1}{2}$	36
10	PW-10	$\frac{1}{8}$ -1 $\frac{1}{2}$	10	18	PW-18	$\frac{1}{4}$ -2 $\frac{1}{2}$	18	48	PW-48	1-6	48

**B OFFSET HEAVY DUTY PIPE WRENCHES**

Pearlitic Malleable Alloy Housing shaped to help reach into tight places. Same superior features as straight pattern.

Size Inches	Stock No.	Capacity	Length
10	PWO 10	$\frac{1}{8}$ -1 $\frac{1}{2}$	10
14	PWO-14	$\frac{1}{4}$ -2	14





**HEX KEY WRENCHES**

STD. and LONG		A STD. SERIES		B LONG SERIES	
Hex Size	Short Arm	Stock No.	Long Arm	Stock No.	Long Arm
.050	9/16	HW-3	1 3/4		
1/16	9/16	HW-4	1 3/4		
5/64	39/64	HW-5	1 7/8	HWL-5	3 3/16
3/32	21/32	HW-6	2	HWL-6	3 3/8
1/8	3/4	HW-8	2 1/4	HWL-8	3 3/4
5/32	27/32	HW-10	2 1/2	HWL-10	4 1/8
3/16	15/16	HW-12	2 3/4	HWL-12	4 1/2
7/32	1 1/32	HW-14	3	HWL-14	4 7/8
1/4	1 1/8	HW-16	3 1/4	HWL-16	5 1/4
5/16	1 1/4	HW-20	3 3/4	HWL-20	6
3/8	1 3/8	HW-24	4 1/4	HWL-24	6 3/4
1/2	1 5/8	HW-32	5 1/4		
9/16	1 3/4	HW-36	5 3/4		
5/8	1 7/8	HW-40	6 1/4		
3/4	2 1/8	HW-48	7 1/4		

**C METRIC HEX KEY WRENCHES**

Hex Size	Stock No.	Short Arm	Long Arm
2 mm	HWM-2	23/32	1 15/16
2.5 mm	HWM-2 1/2	25/32	2 1/32
3 mm	HWM-3	7/8	2 3/8
4 mm	HWM-4	1 1/16	2 13/16
5 mm	HWM-5	1 3/32	3 1/16
6 mm	HWM-6	1 9/32	3 3/32
8 mm	HWM-8	1 9/16	4 1/16
10 mm	HWM-10	1 15/16	4 3/32
12 mm	HWM-12	1 3/4	5 1/16
14 mm	HWM-14	1 7/8	5 3/4
17 mm	HWM-17	2	6 5/16

**E HW-7S 7 STD. HEX KEY WRENCHES**

Bright plated Hex Key standard length Wrenches in plastic pouch with snap down cover. Seven sizes, 5/64" thru 1/4".

**HWL-7S 7 LONG HEX KEY WRENCHES**

The same seven sizes from 5/64" through 1/4" as HW-7S above. Long wrenches give better turning leverage for tight screws.

**F HW-11S 11 STD. HEX KEY WRENCHES**

Hex sizes from .050" through 3/8" to take screw sizes from #1 through 3/16" Socket Hd. Cap and #3 through 3/4" Socket Set Screws.

**G HWF-7S 7 POCKET HEX KEY WRENCHES**

Used by the mechanic in home, garage and shop. Excellent for Auto, TV, Radio, Mower, Home Appliances and Equipment. Seven wrench sizes from .050" through 3/16" to drive set screw sizes #3 through 3/8". Each wrench may be used independently.

**D HWM-7S METRIC HEX KEY WR. SET**

Seven Metric Hex Key Wrenches in plastic kit. Metric sizes included are 2, 2 1/2, 3, 4, 5, 6 and 8. Specifications and Stock Numbers are listed above.

**A**

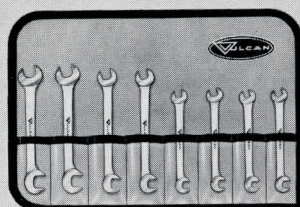


**A 15°-75° ANGLE IGNITION WRENCHES**

VULCAN Ignition Wrenches are made in pairs with two sizes on each wrench. Each size is duplicated at 15° and 75° angles.

Opening Sizes	Stock No.	Either Head		Length
		Width	Thick	
13/64 & 15/64	1101	1/2	3/32	3
15/64 & 13/64	1101A	1/2	3/32	3
7/32 & 1/4	1102	1/2	3/32	3
1/4 & 3/32	1102A	1/2	3/32	3
9/32 & 3/16	1103	37/64	1/8	3 3/4
5/16 & 3/32	1103A	37/64	1/8	3 3/4
11/32 & 3/8	1104	47/64	1/8	3 3/4
3/8 & 11/32	1104A	47/64	1/8	3 3/4

**B**



**B LI-8K 8 IGNITION WRENCHES in K-84 Kit**

**LI-8 8 IGNITION WRENCHES without Kit**

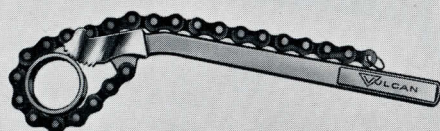
In addition to ignition work, this set is very useful for radios and carburetors. Drop forged from selected Alloy Steel.

Stock No.	Description
1101	13/64" 15° end, 15/64" 75° end.....
1101A	15/64" 15° end, 13/64" 75° end.....
1102	7/32" 15° end, 1/4" 75° end.....
1102A	1/4" 15° end, 7/32" 75° end.....
1103	9/32" 15° end, 3/16" 75° end.....
1103A	3/16" 15° end, 9/32" 75° end.....
1104	11/32" 15° end, 3/8" 75° end.....
1104A	3/8" 15° end, 11/32" 75° end.....

**NUT DRIVERS**

Hex Socket Wrenches for fast work on nut sizes from 3/16" to 7/16" inclusive. Forged in one piece, with deep drilled clearance in shanks.

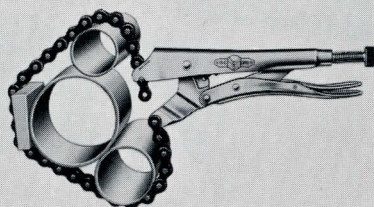
Opening Size	Stock No.	Head Diameter	Length
3/16	ND-6	5/16	7
1/4	ND-8	3/8	7
5/16	ND-10	29/64	7
11/32	ND-11	3/64	7
3/8	ND-12	17/32	7 1/4
7/16	ND-14	5/8	7 1/4



**CW-4 CHAIN WRENCH**

Handle is drop forged alloy steel. Successive bites may be taken without removing the wrench from the work.

Stock No.	Capacity	Lgth.	Repl. Chain	Lgth.
CW-4	3/8" to 4" O.D.	11"	CW-4-1	16"



**V-20R VISE-GRIP CHAIN WRENCH**

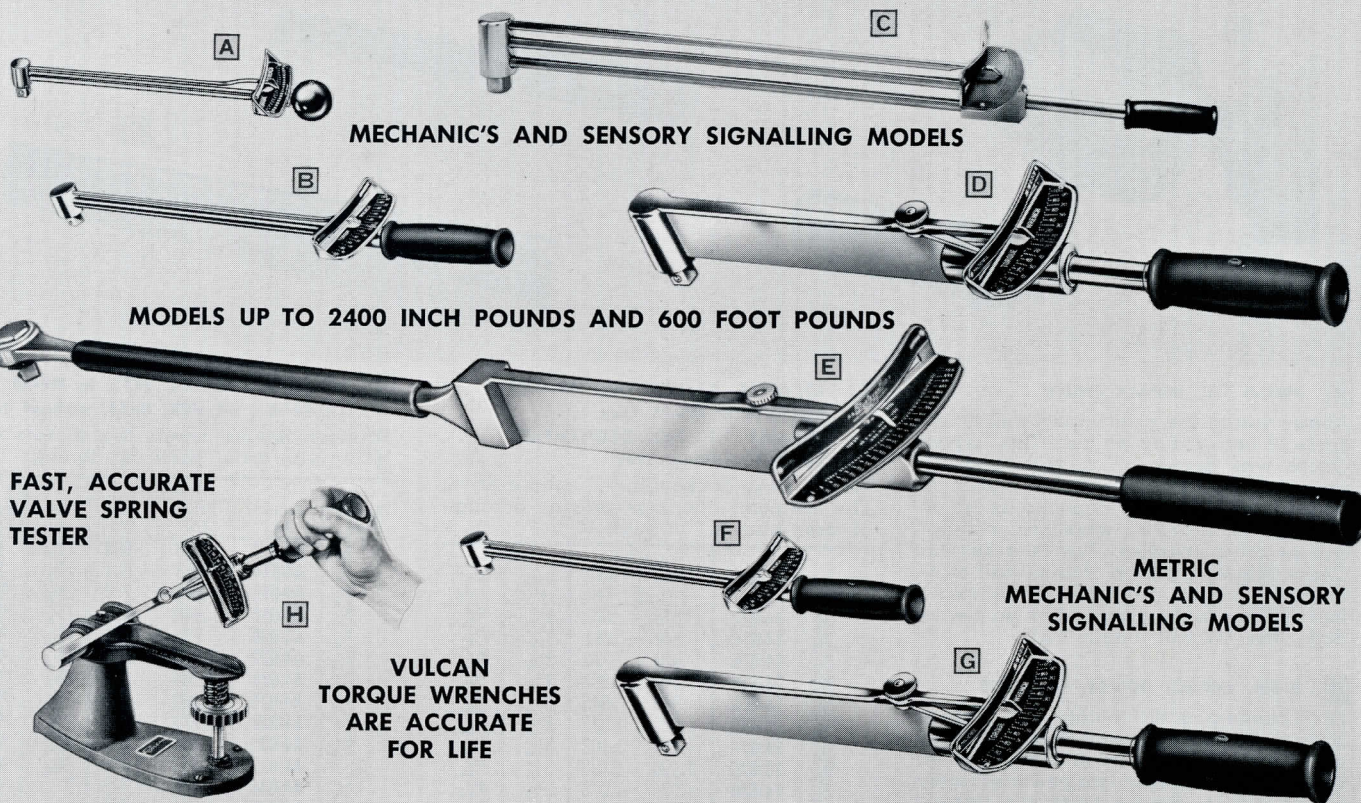
May be used as a Chain Wrench, Chain Clamp and Pipe Wrench. The chain is 19" long and locks onto the work with a tremendous grip. Ideal for working in close quarters and narrow openings. Will not slip or mar finish when properly adjusted. May also be set for ratchet action.



**1999 MULTISOCKET WRENCH**

A single wrench with 8 different 12-point openings. Available sizes are 7/16", 1/2", 9/16", 11/32", 5/8", 1 1/16", 3/4" and 7/8". Swivel heads have index spring to retain desired opening in preset position, allowing handle to be operated at practically any angle. Made of alloy Steel and carefully heat treated for long life.





High compression engines are originally factory torqued to exact specifications by the Torque Wrenches offered to you by VULCAN. A review of service manuals, technical publications and articles reveal that there are countless torque recommendations. The importance of following these torque recommendations is forever demonstrated in factory service schools, vocation schools and by piston ring, oil filter, bearing, spark plug and motor reconditioning equipment manufacturers. A

Torque Wrench is a measuring gauge tool as is your micrometer, cylinder gauge or feeler gauge. Use it correctly and follow manufacturer's recommendations carefully to attain full precision torque control. The Sensory Signalling Torque Wrench tells you by SIGHT, SOUND and FEEL the instant the desired (or pre-set) torque is reached. It may be set for right or left-hand pull over the full range of the scale. A direct reading scale permits on the job recheck of the pre-set torque. A patented

pivoted handle prevents normal pull angles from distorting built-in accuracy of these fine torque measuring wrenches. The Mechanics Torque Wrench is an economy round beam model that will always be a favorite with mechanics the world over. They are noted for their compact, lightweight design and are practically indestructible. May be used with adaptors and extensions because they have the same patented pivoted handle as the Sensory Signalling Model.

#### MECHANIC'S TORQUE WRENCHES

Stock No.	Type	Square Drive	Torque Capacity	Graduation Intervals	Lever Arm Length	Max. Pull Pounds	Overall Length
INCH POUNDS							
TW-1	A	$\frac{3}{8}$	0-25	1	$8\frac{1}{2}$	2.9	$19\frac{1}{2}$
TW-2	A	$\frac{3}{8}$	0-50	$2\frac{1}{2}$	$8\frac{1}{2}$	5.8	$19\frac{1}{2}$
TW-3	A	$\frac{3}{8}$	0-100	5	$9\frac{3}{4}$	11.0	$10\frac{1}{8}$
TW-5	A	$\frac{3}{8}$	0-200	10	$10\frac{1}{8}$	19.9	$11\frac{1}{16}$
TW-6	A	$\frac{3}{8}$	0-300	$12\frac{1}{2}$	$12\frac{1}{16}$	23.8	$14\frac{7}{8}$
TW-7	B	$\frac{3}{8}$	0-600	25	$13\frac{5}{16}$	45.1	$15\frac{1}{16}$
TW-8	B	$\frac{1}{2}$	0-1200	50	$16\frac{1}{16}$	72.2	$19\frac{3}{16}$
TW-9	B	$\frac{1}{2}$	0-1800	50	$16\frac{1}{16}$	107.9	$19\frac{3}{16}$
TW-10	B	$\frac{1}{2}$	0-2400	100	$19\frac{1}{4}$	124.7	$21\frac{3}{4}$
FOOT POUNDS							
TW-11	A	$\frac{3}{8}$	0-25	1	$12\frac{3}{16}$	23.8	$14\frac{7}{8}$
TW-12	B	$\frac{3}{8}$	0-50	$2\frac{1}{2}$	$13\frac{3}{16}$	45.1	$15\frac{1}{16}$
TW-13	B	$\frac{1}{2}$	0-100	5	$16\frac{1}{16}$	72.2	$19\frac{3}{16}$
TW-14	B	$\frac{1}{2}$	0-150	5	$16\frac{1}{16}$	107.9	$19\frac{3}{16}$
TW-15	B	$\frac{1}{2}$	0-200	10	$19\frac{1}{4}$	124.7	$21\frac{3}{4}$
TW-16	C	$\frac{3}{4}$	0-300	10	30	120.0	$34\frac{1}{4}$

#### METRIC MECHANIC'S TORQUE WRENCHES

Stock No.	Type	Square Drive	Torque Capacity	Graduation Intervals	Lever Arm Length	Max. Pull Pounds	Overall Length
METER/KG.							
TWM-14	F	$\frac{1}{2}$	0-14	0.5	$16\frac{1}{16}$	72.2	$19\frac{3}{16}$
TWM-21	F	$\frac{1}{2}$	0-21	1.0	$16\frac{1}{16}$	107.9	$19\frac{3}{16}$

#### [H] SPT-1 VALVE SPRING TESTER

This Spring Tester and an accurate Torque Wrench will measure recoil pressure of springs compressed to any predetermined length. Inspect coil springs to 7" free length and  $2\frac{1}{2}$ " diameter.

#### SENSORY SIGNALLING TORQUE WRENCHES

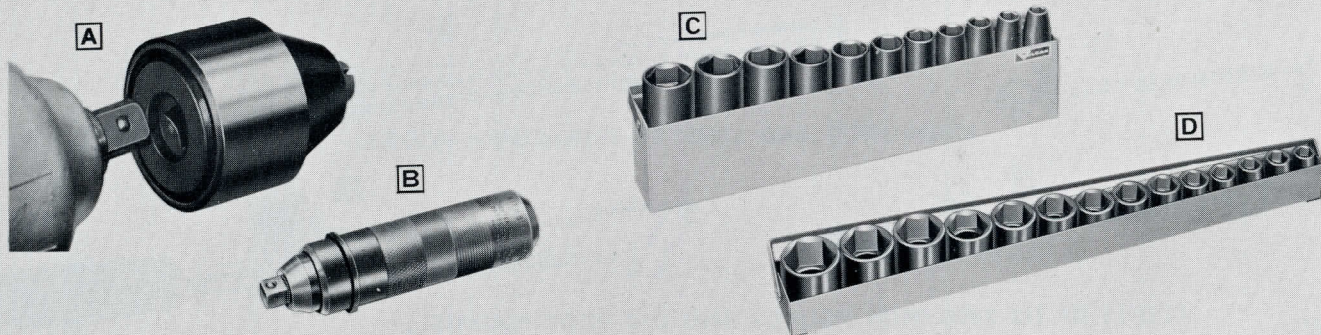
Stock No.	Type	Square Drive	Torque Capacity	Graduation Intervals	Lever Arm Length	Max. Pull Pounds	Overall Length
INCH POUNDS							
TW-6S	D	$\frac{3}{8}$	0-300	$12\frac{1}{2}$	$13\frac{1}{2}$	22.2	16
TW-7S	D	$\frac{3}{8}$	0-600	25	$13\frac{1}{2}$	44.4	16
TW-8S	D	$\frac{1}{2}$	0-1200	50	15	80.0	$17\frac{1}{2}$
TW-9S	D	$\frac{1}{2}$	0-1800	50	18	100.0	$20\frac{1}{8}$
TW-10S	D	$\frac{1}{2}$	0-2400	50	24	100.0	$28\frac{1}{8}$
FOOT POUNDS							
TW-11S	D	$\frac{3}{8}$	0-25	1	$13\frac{1}{2}$	22.2	16
TW-12S	D	$\frac{3}{8}$	0-50	$2\frac{1}{2}$	$13\frac{1}{2}$	44.4	16
TW-13S	D	$\frac{1}{2}$	0-100	5	15	80.0	$17\frac{1}{2}$
TW-14S	D	$\frac{1}{2}$	0-150	5	18	100.0	$20\frac{1}{8}$
TW-15S	D	$\frac{1}{2}$	0-200	5	24	100.0	$28\frac{1}{8}$
TW-16S	D	$\frac{3}{4}$	0-300	10	30	120.0	$34\frac{1}{4}$
†TW-18S	E	$\frac{3}{4}$	0-600	25	60	120.0	65
†TW-18SR	E	$\frac{3}{4}$	0-600	25	60	120.0	65

†TW-18S is plain square. TW-18SR has built in Ratchet Head.

#### METRIC SENSORY SIGNALLING TORQUE WRENCHES

Stock No.	Type	Square Drive	Torque Capacity	Graduation Intervals	Lever Arm Length	Max. Pull Pounds	Overall Length
METER/KG.							
TWM-3S	G	$\frac{3}{8}$	0-3.5	0.125	$13\frac{1}{2}$	22.2	16
TWM-7S	G	$\frac{3}{8}$	0-7	0.25	$13\frac{1}{2}$	44.4	16
TWM-14S	G	$\frac{1}{2}$	0-14	0.5	15	80.0	$17\frac{1}{2}$
TWM-21S	G	$\frac{1}{2}$	0-21	1.0	18	100.0	$20\frac{1}{8}$
TWM-28S	G	$\frac{1}{2}$	0-28	1.0	24	100.0	$28\frac{1}{8}$
TWM-42S	G	$\frac{3}{4}$	0-42	1.0	30	120.0	$34\frac{1}{4}$



**A PWC-5 1/2" IMPACT CHUCK**

Allows you to use your impact tool for all kinds of heavy duty drilling. This Impact Chuck was developed to withstand the rugged action of all popular makes of impact tools. Drill bit capacity is 1/8" to 1/2". Fits all standard wrenches with 1/2" square drive spindles. This is a keyless Chuck allowing you to change drill sizes instantly. Impact wrenches make excellent drilling tools, particularly on heavy duty jobs. Overall length 2 1/4".

**B B-6M IMPACT DRIVER, 3/8" DRIVE**

For loosening or tightening nuts, bolts or screws. A slight twist sets driver for operation in either direction. A sharp hammer blow converts energy into powerful rotary torque action. Breaks loose the tightest nuts and bolts and as easily sets them up tight as you want. Overall length 6".

**C LDI-4611T 11 HEX. DEEP IMPACT SOCKETS in MB-31 Tray**

Eleven Deep Sockets in 1/2" square drive. The six point openings provide a range of sizes from 3/8" through 1".

Opening Size	Stock No.	Diameters		Lengths	
		Drive End	Nose End	Over-all	Depth Opng.
3/8	14-612	.878	.608	3 1/4	5/16
7/16	14-614	.878	.691	3 1/4	5/32
1/2	14-616	.940	.776	3 1/4	21/64
9/16	14-618	.940	.857	3 1/4	13/32
5/8	14-620	.940	.940	3 1/4	29/64
11/16	14-622	1.025	1.025	3 1/4	29/64
3/4	14-624	1.108	1.108	3 1/4	9/16
13/16	14-626	1.190	1.190	3 1/4	39/64
7/8	14-628	1.276	1.276	3 1/2	39/64
15/16	14-630	1.357	1.357	3 1/2	23/32
1	14-632	1.440	1.440	3 1/2	35/64

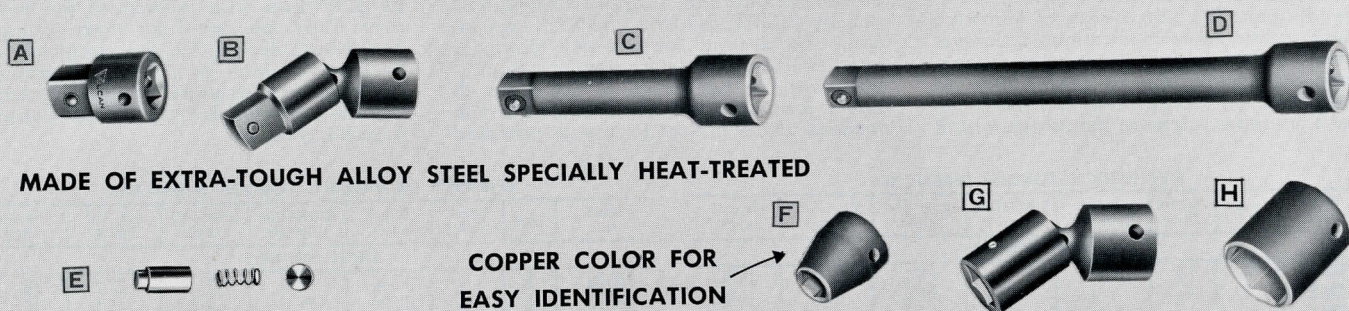
**D LRI-4614T 14 HEX. SKTS. in MB-30 Tray**

Fourteen regular length hex sockets with 1/2" square drive. Sizes 3/8" through 1 1/4".

Opening Size	Stock No.	Diameters		Lengths	
		Drive End	Nose End	Over-all	Depth Opng.
3/8	A4-612	.878	.608	1 1/2	5/16
7/16	A4-614	.878	.691	1 1/2	5/32
1/2	A4-616	.940	.776	1 1/2	21/64
9/16	A4-618	.940	.857	1 1/2	13/32
5/8	A4-620	.944	.944	1 1/2	29/64
11/16	A4-622	1.025	1.025	1 1/2	29/64
3/4	A4-624	1.108	1.108	1 1/2	9/16
13/16	A4-626	1.190	1.190	1 1/2	39/64
7/8	A4-628	1.271	1.271	1 5/8	39/64
15/16	A4-630	1.357	1.357	1 3/4	23/32
1	A4-632	1.440	1.440	1 3/4	35/64
1 1/16	A4-634	1.525	1.525	2	13/16
1 1/8	A4-636	1.565	1.565	2	13/16
1 1/4	A4-640	1.690	1.690	2	29/32

## 3/8 INCH DRIVE IMPACT SOCKETS

## STRONG, TOUGH INDUSTRIAL QUALITY



MADE OF EXTRA-TOUGH ALLOY STEEL SPECIALLY HEAT-TREATED

COPPER COLOR FOR EASY IDENTIFICATION

**A 2-4A IMPACT ADAPTOR**

3/8" Square Female and 1/2" Square Male. Adapts any 3/8" drive impact wrench or extension to 1/2" drive sockets. Overall length, 1 3/8".

**B PB-140 IMPACT UNIVERSAL**

A rugged ball type Universal Joint in 3/8" square drive. Drive end diameter 3/4" and overall length 2 1/4". Flex arc 55°.

**C 2-103A IMPACT EXTENSION**

3/8" Square Drive male and female. Overall length, 3".

**D 2-106A IMPACT EXTENSION**

3/8" Square Drive male and female. Overall length, 6".

**E LOCKING DEVICE REPAIR PARTS**

Set consists of one each Pin Plunger, Tension Spring and Locking Plug as illustrated. Repairs are quick and easy.

**F SINGLE HEX. IMPACT SOCKETS for HARDENED and SELF-TAPPING SCREWS**

Super tough 3/8" drive hexagon opening sockets especially for sheet metal screws.

Opening Size	Stock No.	Diameters		Lengths	
		Drive End	Nose End	Over-all	Depth Opng.
5/16	22-610	.690	.487	1 1/16	1/8
3/8	22-612	.690	.548	1 1/16	3/16
7/16	22-614	.690	.628	1 1/16	15/64
1/2	22-616	.716	.716	1 1/16	15/64

**G SINGLE HEX. UNIVERSAL IMPACT SKTS.**

Exceptionally durable Universals. Tension spring against ball provides presetting.

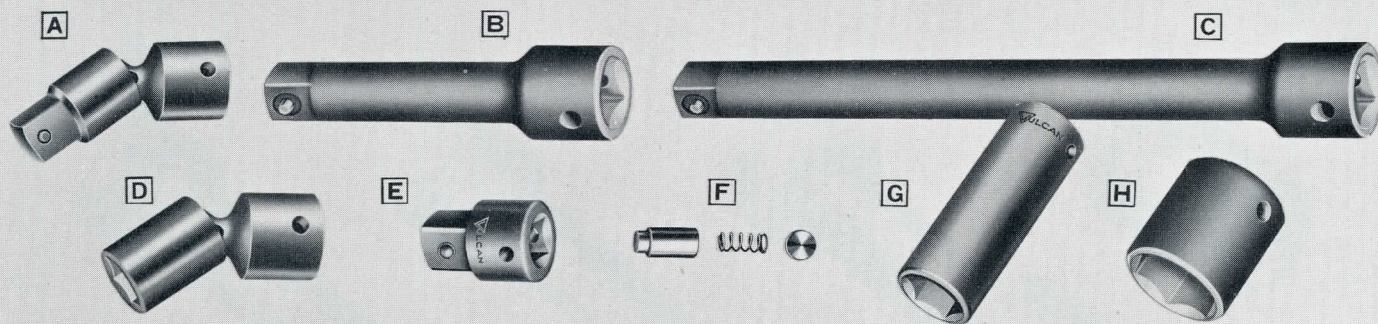
Opening Size	Stock No.	Diameters		Lengths	
		Drive End	Nose End	Over-all	Depth Opng.
3/8	PBU-612	.750	.562	2	5/16
7/16	PBU-614	.750	.625	2	9/32
1/2	PBU-616	.750	.719	2	3/16
9/16	PBU-618	.750	.781	2 1/4	13/32
5/8	PBU-620	.750	.875	2 5/16	29/64

**H SINGLE HEX. IMPACT SOCKETS**

Heavy duty Impact Sockets in a wide range of sizes from 5/16" through 3/4". The smooth, straight walled broached openings give better fit on the hex nut or bolt providing longer socket life. Alloy steel carefully heat-treated to withstand constant impact shock.

Opening Size	Stock No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length	Depth Opng.
5/16	A2-610	.690	.477	7/8	1/4
11/32	A2-611	.690	.515	7/8	9/32
3/8	A2-612	.690	.555	15/16	5/16
7/16	A2-614	.690	.636	15/16	9/32
1/2	A2-616	.716	.716	15/16	21/64
9/16	A2-618	.794	.794	1	13/32
5/8	A2-620	.878	.878	1 1/8	29/64
11/16	A2-622	.956	.956	1 1/8	29/64
3/4	A2-624	1.034	1.034	1 3/16	9/16



**A PS-140 IMPACT UNIVERSAL**

A rugged ball type Universal Joint in  $\frac{1}{2}$ " square drive. Drive end diameter 1" and overall length  $2\frac{1}{16}$ ". Flex arc 55°.

**B 4-105A IMPACT EXTENSION**

$\frac{1}{2}$ " square drive. Overall length 5".

**C 4-110A IMPACT EXTENSION**

$\frac{1}{2}$ " square drive. Overall length 10".

**D SINGLE HEX UNIVERSAL IMPACT SKTS.**

Exceptionally durable Universals. Tension spring against ball provides presetting.

Opening Size	Stock No.	Diameters		Lengths	
		Drive End	Nose End	Overall	Depth Opng.
$\frac{1}{2}$	PSU-616	1.000	.781	$2\frac{1}{2}$	$\frac{5}{16}$
$\frac{9}{16}$	PSU-618	1.000	.843	$2\frac{9}{16}$	$\frac{13}{32}$
$\frac{5}{8}$	PSU-620	1.000	.937	$2\frac{5}{8}$	$\frac{29}{64}$
$\frac{11}{16}$	PSU-622	1.000	1.031	$2\frac{5}{8}$	$\frac{29}{64}$
$\frac{3}{4}$	PSU-624	1.000	1.125	$2\frac{11}{16}$	$\frac{9}{16}$
$\frac{13}{16}$	PSU-626	1.000	1.187	$2\frac{13}{16}$	$\frac{39}{64}$
$\frac{7}{8}$	PSU-628	1.000	1.265	$2\frac{13}{16}$	$\frac{39}{64}$
$1\frac{1}{16}$	PSU-630	1.000	1.359	$2\frac{15}{16}$	$\frac{23}{32}$
1	PSU-632	1.000	1.437	$2\frac{15}{16}$	$\frac{43}{64}$

**E 4-5A IMPACT ADAPTOR**

Converts  $\frac{3}{8}$ " male squares to  $\frac{1}{2}$ " male square. Overall length  $1\frac{1}{8}$ ".

**F PA-4P LOCKING DEVICE REPAIR PARTS**

Set consists of one each Plunger, Spring and Plug as illustrated.

**G SINGLE HEX DEEP IMPACT SOCKETS**

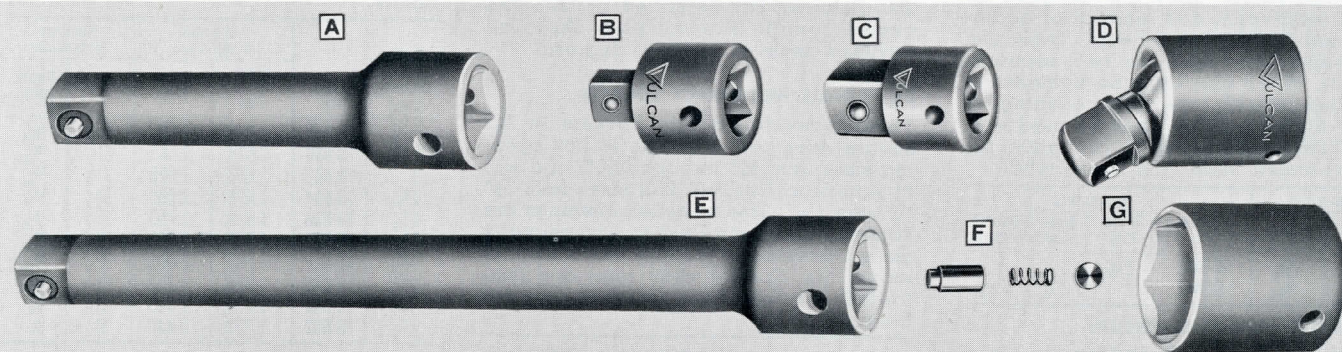
Rugged, deep length Sockets providing ample bolt clearance. Sizes  $\frac{3}{8}$ " through 1".

Opening Size	Stock No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length	Depth Opng.
$\frac{3}{8}$	14-612	.878	.608	$3\frac{1}{4}$	$\frac{5}{16}$
$\frac{7}{16}$	14-614	.878	.691	$3\frac{1}{4}$	$\frac{9}{32}$
$\frac{1}{2}$	14-616	.940	.776	$3\frac{1}{4}$	$\frac{21}{64}$
$\frac{9}{16}$	14-618	.940	.857	$3\frac{1}{4}$	$\frac{13}{32}$
$\frac{5}{8}$	14-620	.940	.940	$3\frac{1}{4}$	$\frac{29}{64}$
$\frac{11}{16}$	14-622	1.025	1.025	$3\frac{1}{4}$	$\frac{29}{64}$
$\frac{3}{4}$	14-624	1.108	1.108	$3\frac{1}{4}$	$\frac{9}{16}$
$\frac{13}{16}$	14-626	1.190	1.190	$3\frac{1}{4}$	$\frac{39}{64}$
$\frac{7}{8}$	14-628	1.276	1.276	$3\frac{1}{2}$	$\frac{39}{64}$
$1\frac{1}{16}$	14-630	1.357	1.357	$3\frac{1}{2}$	$\frac{23}{32}$
1	14-632	1.440	1.440	$3\frac{1}{2}$	$\frac{35}{64}$

**H SINGLE HEX IMPACT SOCKETS**

Hex Impact Sockets with  $\frac{1}{2}$ " square drive. The opening sizes from  $\frac{3}{8}$ " through  $1\frac{1}{4}$ " will fit American Standard Nut and Bolt sizes from  $\frac{1}{4}$ " through  $\frac{3}{4}$ ". Selected Alloy Steel is carefully heat treated for maximum life.

Opening Size	Stock No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length	Depth Opng.
$\frac{3}{8}$	A4-612	.878	.608	$1\frac{1}{2}$	$\frac{5}{16}$
$\frac{7}{16}$	A4-614	.878	.691	$1\frac{1}{2}$	$\frac{9}{32}$
$\frac{1}{2}$	A4-616	.940	.776	$1\frac{1}{2}$	$\frac{21}{64}$
$\frac{9}{16}$	A4-618	.940	.857	$1\frac{1}{2}$	$\frac{13}{32}$
$\frac{5}{8}$	A4-620	.944	.944	$1\frac{1}{2}$	$\frac{29}{64}$
$\frac{11}{16}$	A4-622	1.025	1.025	$1\frac{1}{2}$	$\frac{29}{64}$
$\frac{3}{4}$	A4-624	1.108	1.108	$1\frac{1}{2}$	$\frac{9}{16}$
$\frac{13}{16}$	A4-626	1.190	1.190	$1\frac{1}{2}$	$\frac{39}{64}$
$\frac{7}{8}$	A4-628	1.271	1.271	$1\frac{5}{8}$	$\frac{39}{64}$
$1\frac{1}{16}$	A4-630	1.357	1.357	$1\frac{3}{4}$	$\frac{23}{32}$
1	A4-632	1.440	1.440	$1\frac{3}{4}$	$\frac{35}{64}$
$1\frac{1}{8}$	A4-634	1.525	1.525	2	$\frac{13}{16}$
$1\frac{1}{4}$	A4-636	1.565	1.565	2	$\frac{13}{16}$
	A4-640	1.690	1.690	2	$\frac{29}{32}$

**A 5-106A IMPACT EXTENSION**

$\frac{5}{8}$ " square drive. Overall length 6".

**B 5-4A IMPACT ADAPTOR**

Converts  $\frac{5}{8}$ " male squares to  $\frac{1}{2}$ " male square. Overall length  $1\frac{7}{8}$ ".

**C 5-6 IMPACT ADAPTOR**

Converts  $\frac{5}{8}$ " male squares to  $\frac{3}{4}$ " male square. Overall length 2".

**D 5-140 IMPACT UNIVERSAL**

$\frac{5}{8}$ " drive ball type Universal Joint. Maximum swing 55° included. O.A. length  $2\frac{5}{8}$ ".

**E 5-110 IMPACT EXTENSION**

$\frac{5}{8}$ " square drive. Overall length 10".

**F PA-5P LOCKING DEVICE REPAIR PARTS**

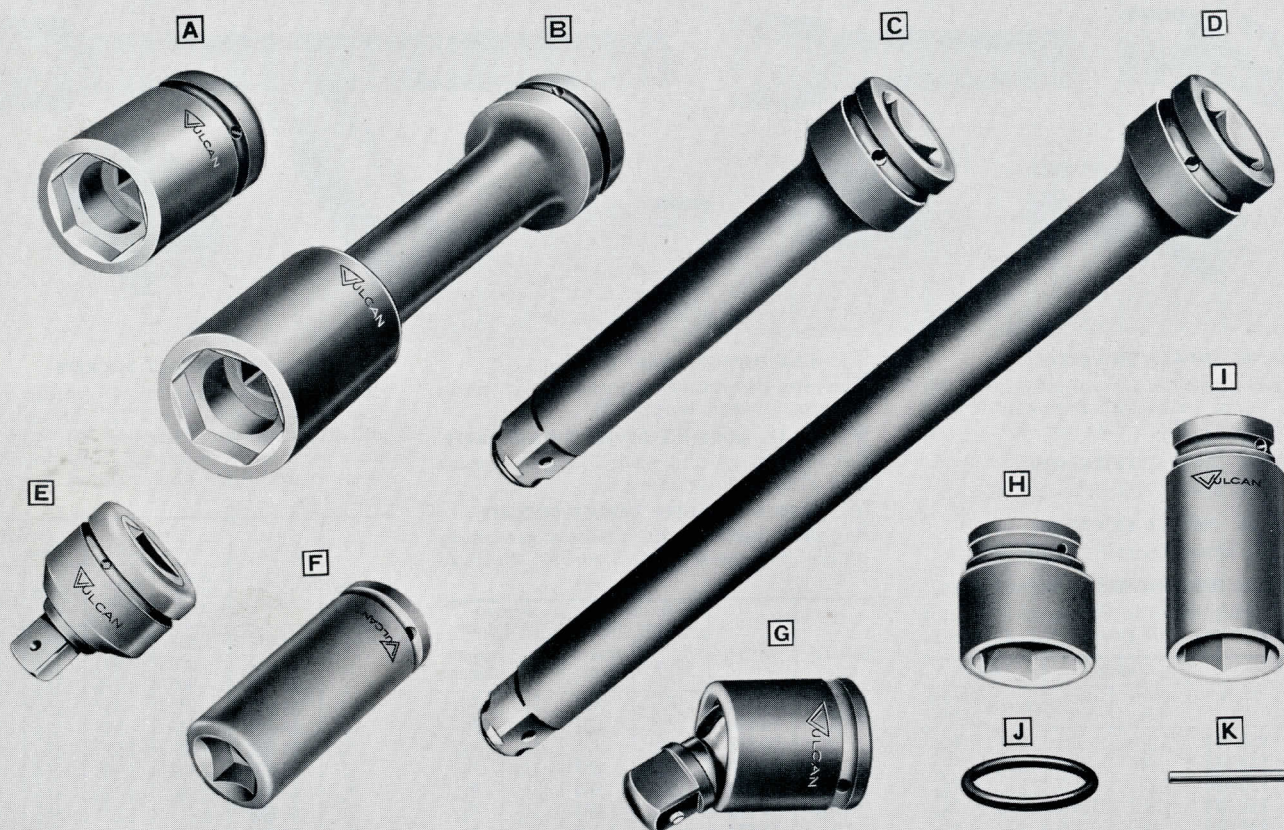
Set includes Plunger, Spring and Plug.

**G SINGLE HEX IMPACT SOCKETS**

Here are  $\frac{5}{8}$ " drive sockets, rugged from the word go. Made from selected alloy steel and carefully heat-treated to increase strength and toughness.

Opening Size	Stock No.	Maximum Dimensions		Nominal Dimensions		Opening Size	Stock No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length	Depth Opng.			Diam. Drive End	Diam. Nose	Length	Depth Opng.
$\frac{5}{8}$	A5-620	1.190	.940	$1\frac{1}{2}$	$\frac{29}{64}$	$1\frac{1}{16}$	A5-634	1.525	1.525	2	$\frac{13}{16}$
$\frac{11}{16}$	A5-622	1.190	1.018	$1\frac{1}{2}$	$\frac{29}{64}$	$1\frac{1}{8}$	A5-636	1.608	1.608	2	$\frac{13}{16}$
$\frac{3}{4}$	A5-624	1.190	1.108	$1\frac{1}{2}$	$\frac{9}{16}$	$1\frac{1}{4}$	A5-640	1.777	1.777	2	$\frac{29}{32}$
$\frac{13}{16}$	A5-626	1.190	1.190	$1\frac{5}{8}$	$\frac{39}{64}$	$1\frac{1}{8}$	A5-642	1.853	1.853	2	$\frac{49}{64}$
$\frac{7}{8}$	A5-628	1.271	1.271	$1\frac{5}{8}$	$\frac{39}{64}$	$1\frac{3}{8}$	A5-644	1.936	1.936	$2\frac{1}{8}$	$\frac{49}{64}$
$1\frac{1}{16}$	A5-630	1.357	1.357	2	$\frac{23}{32}$	$1\frac{1}{16}$	A5-646	2.003	2.003	$2\frac{1}{4}$	$\frac{49}{64}$
1	A5-632	1.440	1.440	2	$\frac{35}{64}$	$1\frac{1}{2}$	A5-648	2.090	2.090	$2\frac{3}{8}$	$\frac{7}{8}$





#### A 6-BW4 BUDD WHEEL IMPACT SOCKET

#### B 6-BW7 BUDD WHEEL IMPACT SOCKET

Sockets 6-BW4 and 6-BW7 each have two openings ( $\frac{1}{16}$ " square and  $\frac{1}{2}$ " hex) in the same socket. They are designed for quick installation and removal of all on-the-road Budd type wheels. Their use eliminates the need for two separate sockets. When checking the tightness of installed wheels, the  $\frac{1}{2}$ " opening of either 6-BW4 or 6-BW7 may be used with 16-BW426 (described at "F") to tighten the square-ended Budd stud separately.

Openings		Stock No.	Diameters		Overall Length
Hex	Square		Drive End	Nose End	
$\frac{1}{2}$	$\frac{1}{16}$	6-BW4	$\frac{2}{4}$	$\frac{2}{4}$	4
$\frac{1}{2}$	$\frac{1}{16}$	6-BW7	2	$\frac{2}{4}$	$7\frac{1}{2}$

#### C 6-107 IMPACT EXTENSION

$\frac{3}{4}$ " square drive male and female. Overall length 7". Drive end diameter  $\frac{1}{8}$ ".

#### D 6-113 IMPACT EXTENSION

$\frac{3}{4}$ " square drive male and female. Overall length 13". Drive end diameter  $\frac{1}{8}$ ".

#### E 6-7 IMPACT ADAPTOR

Converts  $\frac{3}{4}$ " male square drive to 1" square drive.  $\frac{1}{8}$ " drive end diameter uses #B Pin. Overall length  $2\frac{5}{8}$ ".

#### F 16-BW426 BUDD WHEEL SOCKET

Socket has  $\frac{1}{16}$ " square opening for adjustment of the square stud on Budd Wheels. Depth of the broached opening is  $\frac{1}{16}$ ". Use this socket with your  $\frac{3}{4}$ " Impact Wrench, or adapt it to your 1" wrench. The overall length of 4" allows you to reach into any excessive overhang. Outside diameter  $\frac{1}{8}$ ".

#### G 6-140 IMPACT UNIVERSAL

A ball type Universal Joint for use with  $\frac{3}{4}$ " square drive Impact Wrenches, Sockets and Attachments. The outside diameter of the drive end is  $\frac{1}{4}$ " for use with #C Retainer Pin described at "K". The overall length is a compact  $3\frac{3}{4}$ ". The included angle of flex is 55 degrees.

#### H SINGLE HEX IMPACT SOCKETS

These powerful Impact Sockets in  $\frac{3}{4}$ " square drive are available in hex opening sizes from  $\frac{3}{4}$ " through  $1\frac{1}{16}$ ", and will fit American Nut and Bolt sizes from  $\frac{1}{2}$ " through  $1\frac{1}{8}$ ". The broached openings are straight, clean and held to exceptionally close tolerances to produce better fits and longer life. Special alloy steel and controlled, modern heat treating is used throughout.

Opening Size	Stock No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length	Depth Opng.
$\frac{3}{4}$	6-624	1.628	1.253	$1\frac{3}{4}$	$\frac{9}{16}$
$\frac{13}{16}$	6-626	1.628	1.378	$1\frac{7}{8}$	$\frac{3}{4}$
$\frac{1}{4}$	6-628	1.628	1.503	$1\frac{7}{8}$	$\frac{3}{4}$
$\frac{1}{8}$	6-630	1.628	1.565	2	$\frac{23}{32}$
1	6-632	1.628	1.628	2	$\frac{23}{32}$
$1\frac{1}{16}$	6-634	1.628	1.690	2	$\frac{13}{16}$
$1\frac{1}{8}$	6-636	1.628	1.753	$2\frac{1}{8}$	$\frac{13}{16}$
$1\frac{1}{4}$	6-640	1.753	2.003	$2\frac{1}{4}$	$\frac{29}{32}$
$1\frac{1}{2}$	6-642	1.753	2.065	$2\frac{1}{4}$	$\frac{49}{64}$
$1\frac{3}{8}$	6-644	1.753	2.128	$2\frac{1}{4}$	$\frac{49}{64}$
$1\frac{7}{8}$	6-646	1.753	2.253	$2\frac{1}{4}$	$\frac{49}{64}$
$1\frac{1}{2}$	6-648	1.753	2.315	$2\frac{3}{8}$	$\frac{7}{8}$
$1\frac{3}{8}$	6-652	1.878	2.440	$2\frac{3}{8}$	$\frac{7}{8}$
$1\frac{1}{16}$	6-654	1.878	2.503	$2\frac{3}{8}$	1

#### I SINGLE HEX DEEP IMPACT SOCKETS

A solid combination of quality, design and manufacture are the basic ingredients of every Vulcan Impact Socket. You can count on Vulcan for your standard of safety.

Opening Size	Stock No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length	Depth Opng.
$\frac{7}{8}$	16-628	1.628	1.503	$3\frac{1}{2}$	$\frac{39}{64}$
$\frac{15}{16}$	16-630	1.628	1.565	$3\frac{1}{2}$	$\frac{23}{32}$
1	16-632	1.628	1.628	$3\frac{1}{2}$	$\frac{39}{64}$
$1\frac{1}{16}$	16-634	1.628	1.690	$3\frac{1}{2}$	$\frac{13}{16}$
$1\frac{1}{8}$	16-636	1.628	1.753	$3\frac{1}{2}$	$\frac{13}{16}$
$1\frac{1}{4}$	16-640	1.753	2.003	$3\frac{1}{2}$	$\frac{29}{32}$
$1\frac{1}{2}$	16-642	1.753	2.065	$3\frac{1}{2}$	$\frac{49}{64}$
$1\frac{3}{8}$	16-646	1.753	2.253	$3\frac{1}{2}$	$\frac{49}{64}$
$1\frac{1}{2}$	16-648	1.753	2.315	$3\frac{1}{2}$	$\frac{7}{8}$
$1\frac{3}{8}$	16-652	1.753	2.440	$3\frac{1}{2}$	$\frac{7}{8}$

#### J "O" RINGS

Neoprene "O" Rings of exceptional quality to contain the Retainer Pins.

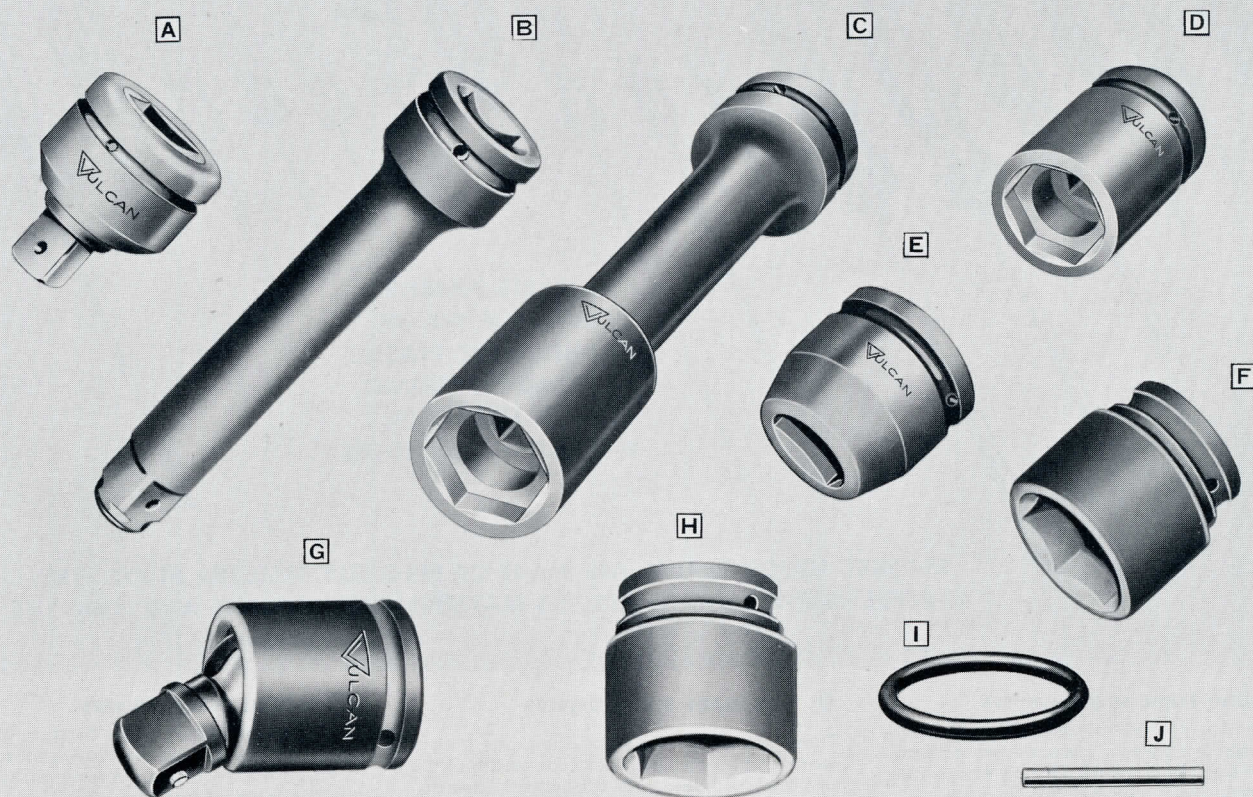
Stock No.	Fits	Inside Diam.	Section Diam.
A-1	All $\frac{3}{4}$ " Square Drive Sockets & Attachments	$1\frac{1}{16}$	$\frac{9}{64}$

#### K RETAINER PINS

Retainer Pins lock Sockets and Attachments to  $\frac{3}{4}$ " male square drives.

Stock No.	Fits	Diam.	Length
B	$\frac{3}{4}$ " Drive Series to $\frac{1}{8}$ " drive end diameter.	$\frac{3}{16}$	$1\frac{1}{8}$
C	$\frac{3}{4}$ " Drive Series, $1\frac{1}{16}$ " diameter and larger.	$\frac{3}{16}$	$1\frac{1}{2}$



**A 7-6 IMPACT ADAPTOR**

Female square drive of 1" converts your 1" Impact Wrench and Attachments down to  $\frac{3}{4}$ " male square so that  $\frac{3}{4}$ " drive sockets may be used. Overall length is 3".

**B 7-107 IMPACT EXTENSION**

Selected alloy steel combined with proper heat treating and modern manufacturing facilities for greatest possible strength and tool life. Overall length 7".

**C 7-BW9 BUDD WHEEL IMPACT SOCKET****D 7-BW4 BUDD WHEEL IMPACT SOCKET**

Sockets 7-BW4 and 7-BW9 each have two openings ( $\frac{1}{2}$ " square and  $1\frac{1}{2}$ " hex) in the same socket. They are designed for quick installation and removal of all on-the-road Budd type wheels. Their use eliminates the need for two separate sockets. When checking the tightness of installed wheels, the  $1\frac{1}{2}$ " opening of either 7-BW4 or 7-BW9 may be used with 16-BW426 (described at "F" on page 44) to tighten the square-ended Budd stud separately.

Openings		Stock No.	Diameters		Overall Length
Hex	Square		Drive End	Nose End	
$1\frac{1}{2}$	$\frac{1}{2}$	7-BW4	$2\frac{1}{4}$	$2\frac{1}{4}$	4
$1\frac{1}{2}$	$\frac{1}{2}$	7-BW9	$2\frac{1}{4}$	$2\frac{1}{4}$	9

**E 7-430 BUDD WHEEL IMPACT SOCKET****F 7-656 BUDD WHEEL IMPACT SOCKET**

Designed for the oversized Budd Wheel stud and nut used on the largest over-the-road equipment and off-the-road machines such as cranes. 7-430 fits Budd stud #B-49415, and 7-656 fits Budd flange nut #B-49416. 7-430,  $\frac{1}{2}$ " 4 point is  $2\frac{1}{4}$ " long. 7-656,  $1\frac{3}{4}$ " 6 point is  $2\frac{1}{2}$ " long.

## EXTRA HEAVY DUTY IMPACT SOCKETS AND ATTACHMENTS

Designed and manufactured for the really big jobs. Over-the-road equipment, road building machinery and similar stationary equipment generally require "on-the-job" repair. The  $\frac{3}{4}$ " and 1" square drive Impact Tools Illustrated and described on these two pages offer you a wide range of Socket openings and Attachments for virtually every application. Ask your VULCAN Dealer about his prices too. We take pride in the fact that we offer you a stronger, better designed tool with really rugged dependability — at a fair price . . .

**CHECK THESE FEATURES !**

- SELECTED ALLOY STEEL
- MODERN CONTROLLED HEAT TREAT
- CLEAN, STRAIGHT WALL OPENINGS
- EXACTING TOLERANCES, RIGIDLY HELD
- QUALITY DESIGN AND METHODS

**G 7-140 IMPACT UNIVERSAL**

A smooth running ball type Universal Joint having 1" square male and female drives. The diameter of the female drive end is  $2\frac{3}{8}$ ", and overall length is  $4\frac{3}{8}$ ". The included flex angle of the male end is 55 degrees providing great strength and ample movement.

**H SINGLE HEX IMPACT SOCKETS**

Hex Opening sizes from 1" through  $2\frac{1}{4}$ " fit American Standard Nut and Bolt sizes from  $\frac{5}{8}$ " through  $1\frac{1}{2}$ ".

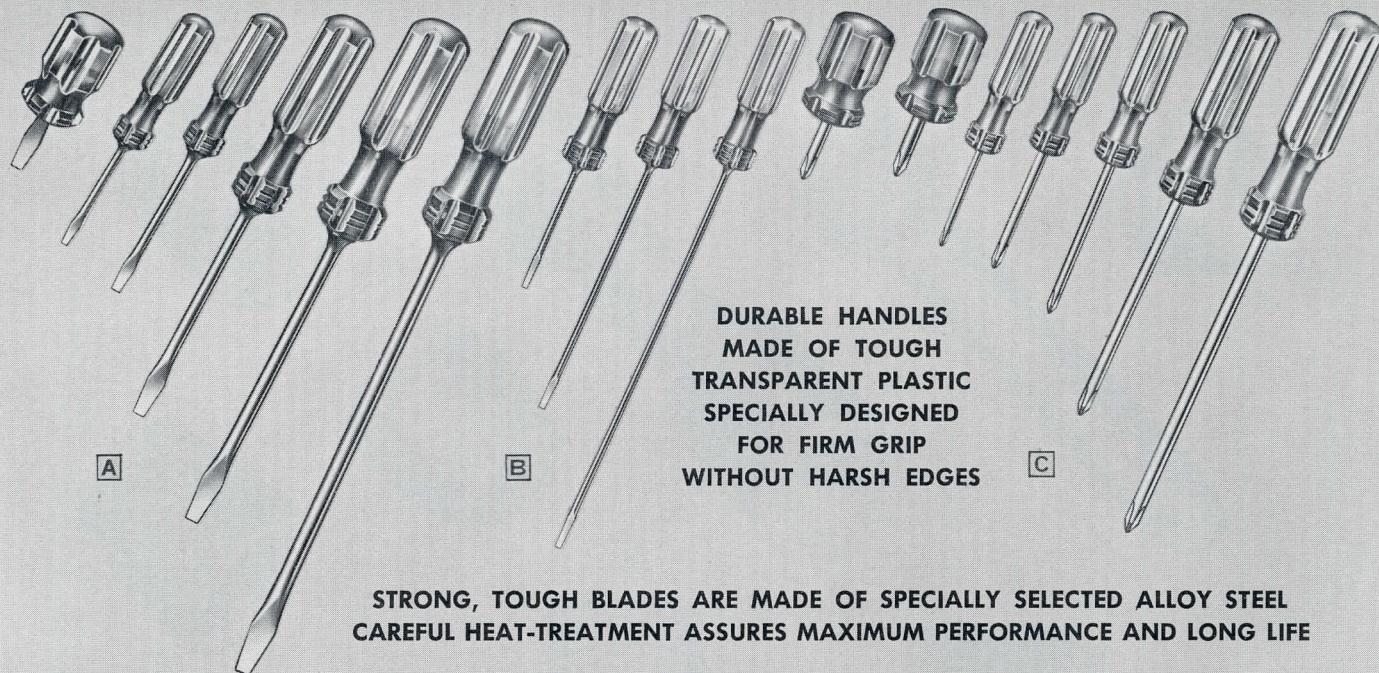
Opening Size	Stock No.	Maximum Dimensions		Nominal Dimensions	
		Diam. Drive End	Diam. Nose	Length	Depth Opng.
1	7-632	2.003	1.753	$2\frac{1}{4}$	$\frac{3}{4}$
$1\frac{1}{8}$	7-634	2.003	1.753	$2\frac{1}{4}$	$\frac{13}{16}$
$1\frac{1}{4}$	7-636	2.128	1.815	$2\frac{3}{8}$	$\frac{13}{16}$
$1\frac{1}{2}$	7-640	2.128	2.003	$2\frac{3}{4}$	$\frac{29}{32}$
$1\frac{3}{8}$	7-642	2.128	2.065	$2\frac{3}{4}$	$\frac{49}{64}$
$1\frac{3}{4}$	7-644	2.253	2.128	$2\frac{3}{4}$	$\frac{49}{64}$
$1\frac{7}{8}$	7-646	2.253	2.253	$2\frac{3}{4}$	$\frac{49}{64}$
$1\frac{1}{2}$	7-648	2.253	2.315	$2\frac{3}{8}$	$\frac{7}{8}$
$1\frac{5}{8}$	7-652	2.253	2.440	$2\frac{5}{8}$	$\frac{7}{8}$
$1\frac{11}{16}$	7-654	2.253	2.565	$2\frac{11}{16}$	1
$1\frac{3}{4}$	7-656	2.253	2.628	$2\frac{11}{16}$	1
$1\frac{13}{16}$	7-658	2.253	2.753	$2\frac{3}{4}$	1
$1\frac{7}{8}$	7-660	2.253	2.753	$2\frac{7}{8}$	$1\frac{1}{32}$
2	7-664	2.253	3.003	$2\frac{15}{16}$	$1\frac{1}{32}$
$2\frac{1}{16}$	7-666	2.253	3.003	$3\frac{1}{8}$	$1\frac{13}{64}$
$2\frac{3}{16}$	7-670	2.378	3.253	$3\frac{1}{8}$	$1\frac{13}{64}$
$2\frac{1}{4}$	7-672	2.378	3.253	$3\frac{1}{4}$	$1\frac{1}{8}$

**I "O" RINGS****J RETAINER PINS**

Neoprene "O" Rings hold Retainer Pins. The Retainer pins lock socket to anvil.

Stock No.	Fits	Diam.	Length
B-1	"O" Ring, all 1" Impact	$1\frac{3}{4}$	—
D	Pin for all 1" Impact	$\frac{3}{16}$	$1\frac{1}{8}$





**DURABLE HANDLES  
MADE OF TOUGH  
TRANSPARENT PLASTIC  
SPECIALLY DESIGNED  
FOR FIRM GRIP  
WITHOUT HARSH EDGES**

**STRONG, TOUGH BLADES ARE MADE OF SPECIALLY SELECTED ALLOY STEEL  
CAREFUL HEAT-TREATMENT ASSURES MAXIMUM PERFORMANCE AND LONG LIFE**

#### **A ROUND BLADE SCREW DRIVERS**

Forged Alloy Steel Blades are fully polished and tempered. Tips are cross-ground. Forged bolster prevents forcing blade into the shock-proof, comfort grip handle.

Stock No.	Blade Tip Width	Blade Length	Blade Diam.	Replacement Blade No.
SD-1	1/4	1 1/2	1/4	SD-1B
SD-3	7/32	3	3/8	SD-3B
SD-4	1/4	4	1/4	SD-4B
SD-6	5/16	6	5/8	SD-6B
SD-8	3/8	8	3/8	SD-8B
SD-12	3/8	12	3/8	SD-12B

#### **B THIN BLADE SCREW DRIVERS**

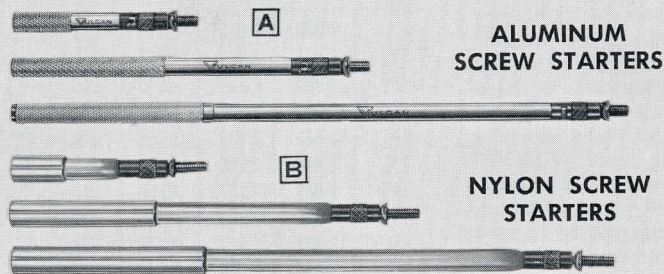
These Screw Drivers are ideal for instrument and electronic work. The width of the tip and diameter of the shank are 3/16" allowing the shank to extend below the surface. Tempered Alloy Steel shank and tip with forged bolster at the handle.

Stock No.	Blade Tip Width	Blade Length	Blade Diam.	Replacement Blade No.
SDE-3	3/16	3	3/16	SDE-3B
SDE-6	3/16	6	3/16	SDE-6B
SDE-10	3/16	10	3/16	SDE-10B

#### **C PHILLIPS SCREW DRIVERS**

Super tough, Alloy Steel Blades fully polished for maximum service and satisfaction. Points accurately machined to really fit. Shock-proof handles.

Stock No.	Phillips Size	Blade Length	Blade Diam.	Replacement Blade No.
SDP-10	#1	1	3/16	SDP-10B
SDP-20	#2	1 1/4	1/4	SDP-20B
SDP-0	#0	3	1/8	SDP-0B
SDP-1	#1	3	3/16	SDP-1B
SDP-2	#2	4	1/4	SDP-2B
SDP-3	#3	6	5/8	SDP-3B
SDP-4	#4	8	3/8	SDP-4B



**ALUMINUM  
SCREW STARTERS**

**NYLON SCREW  
STARTERS**

- A SS-25 ALUMINUM SCREW STARTER, 2 1/2" long.**  
**SS-50 ALUMINUM SCREW STARTER, 5" long.**  
**SS-90 ALUMINUM SCREW STARTER, 9" long.**

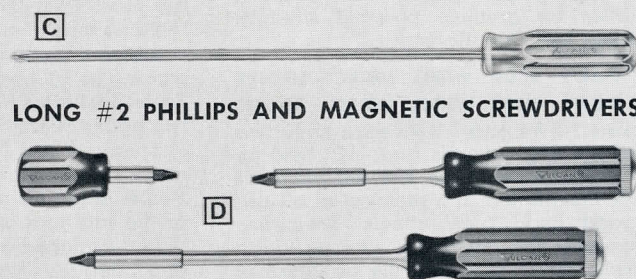
The answer to needless fumbling with screws in tight places. Starts or removes all size screws in difficult, inaccessible places. No interfering claws. Grips slot with 15 pound pull.

- B SSN-25 NYLON SCREW STARTER, 2 1/2" long.**  
**SSN-50 NYLON SCREW STARTER, 5" long.**  
**SSN-90 NYLON SCREW STARTER, 9" long.**

The same holding and starting mechanism as Aluminum Screw Starters. Excellent for all electrical work because of non-conducting molded Nylon handles.

- C SDP-21 #2 PHILLIPS SCREW DRIVER, 10" Blade length.**  
**SDP-21B REPLACEMENT BLADE FOR SDP-21**

The #2 Phillips Blade is made of "Super Steel" for longest possible tool life. Long 10" blade length reaches down into cavities. Shock proof "Tenite" handle.



**LONG #2 PHILLIPS AND MAGNETIC SCREWDRIVERS**

#### **D MAGNETIC SCREW DRIVERS**

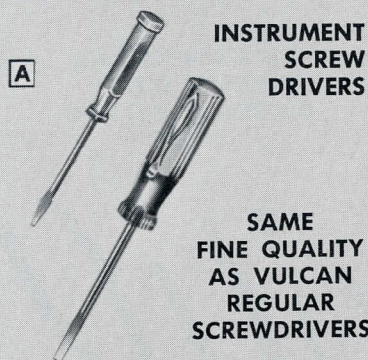
Alnico magnet holds interchangeable bits in place. Black plastic (U.L. approved) handles for comfort grip. Stainless steel sleeve. Extra bits held in handle of SDM-4S and SDM-7S.

Stock No.	Bits Furnished	Lengths	
		Shank	Overall
SDM-1S	SDM-211B	1 1/2	3 1/2
SDM-4S	SDM-211B, SDM-213B, SDM-221B, SDM-222B	4	8
SDM-7S	SDM-211B, SDM-213B, SDM-221B, SDM-222B	7	11

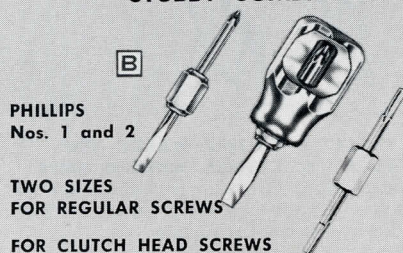
#### **BITS ONLY FOR MAGNETIC SCREW DRIVERS**

Stock No.	Description	Stock No.	Description
SDM-211B	Slotted, .034	SDM-222B	Phillips, #2
SDM-213B	Slotted, .040	SDM-223B	Phillips, #3
SDM-214B	Slotted, .045	Frearson (R&P), Screw Sizes	
SDM-216B	Slotted, .050	SDM-230B	#5 and smaller
SDM-221B	Phillips, #1	SDM-231B	#6 and larger

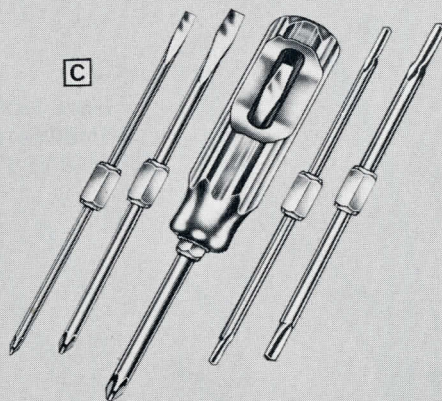


**INSTRUMENT  
SCREW  
DRIVERS**

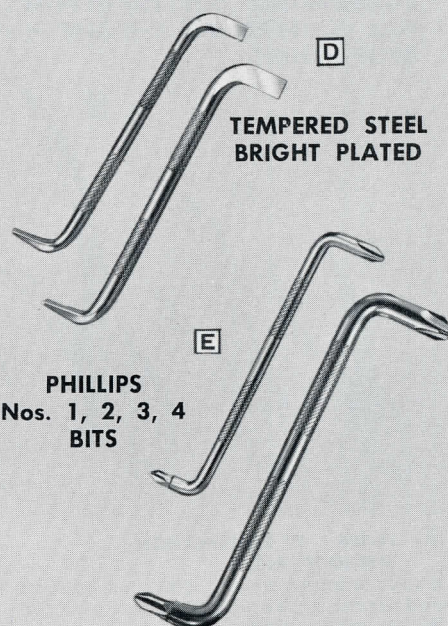
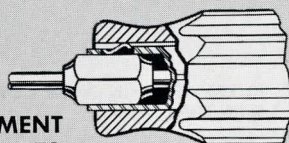
**SAME  
FINE QUALITY  
AS VULCAN  
REGULAR  
SCREWDRIVERS**

**STUBBY COMBINATION****PHILLIPS  
Nos. 1 and 2**

**TWO SIZES  
FOR REGULAR SCREWS  
FOR CLUTCH HEAD SCREWS**

**THE DUAL  
PURPOSE SCREWDRIVER**

**PATENTED  
SPRING  
IN  
HANDLE  
ARRANGEMENT  
HOLDS BLADES  
SECURELY**

**TEMPERED STEEL  
BRIGHT PLATED****PHILLIPS  
Nos. 1, 2, 3, 4  
BITS****A INSTRUMENT SCREWDRIVERS**

Stock No.	Blade Length	Blade Diam.	Description
SDI-1	1 1/2	3/32	No Clip
SDI-2	2	1/8	With Clip

**B STUBBY COMBINATION SCREWDRIVER**

Blades also fit SDH-2 described at "C".

Stock No.	Description
SDH-1	Stubby Plastic Handle only.....
SDH-1-1	Blade, #1 Phillips, 3/16" Slotted.....
SDH-1-2	Blade, #2 Phillips, 1/4" Slotted.....
SDH-1-4	Blade, 3/32" Clutch, 3/16" Clutch.....

**C COMBINATION SCREWDRIVER**

Patented Spring in handle arrangement holds blades firmly in place. The double ended blades give you two screwdrivers in one. Available blades are listed below

Stock No.	Description
SDH-2	Regular Plastic Handle only.....
SDH-2-1	Blade, #1 Phillips, 3/16" Slotted.....
SDH-2-2	Blade, #2 Phillips, 1/4" Slotted.....
SDH-2-3	Blade, #3 Phillips, 5/16" Slotted.....
SDH-2-4	Blade, 3/32" Clutch, 3/16" Clutch.....
SDH-2-5	Blade, 1/4" Clutch, 5/16" Clutch.....

**OFFSET SCREWDRIVERS**

Type "D" blades offset 90° from each other. Finest Alloy Steel. Bright plate finish.

Stock No.	Tip Sizes	Blade Diam.	Length
SDO-1	1/4 & 1/4	1/4	4 1/2
SDO-2	5/16 & 5/16	5/16	5

**D OFFSET FOR SLOTTED SCREWS****E OFFSET FOR PHILLIPS SCREWS**

Stock No.	Tip Sizes	Blade Diam.	Length
SDP-12	#1 & #2	1/4	5
SDP-34	#3 & #4	3/8	6 1/4



**QUALITY  
AT LOW COST  
HARDWOOD HANDLES  
WITH HEAVY STEEL FERRULES  
STRONG BLADES  
ARE SECURELY ANCHORED**

**A PHILLIPS SCREWDRIVERS, Wood Handle**

Stock No.	Tip Size	Blade Lgth.	O.A. Lgth.
SDWP-1	#1	3	7 1/4
SDWP-2	#2	4	8 1/4
SDWP-3	#3	6	11 1/4

**B CLUTCH HD. SCREWDRIVERS, Wood Hdle.**

Stock No.	Tip Size	Blade Lgth.	O.A. Lgth.
SDWC-5	3/32	4	8 1/4
SDWC-6	1/16	4	8 1/4
SDWC-8	1/4	6	11 1/4
SDWC-10	5/16	6	12 1/2

**C REGULAR SQUARE BLADE SCREWDRIVERS**

Top quality hardwood handles are square to prevent rolling. Plated blades.

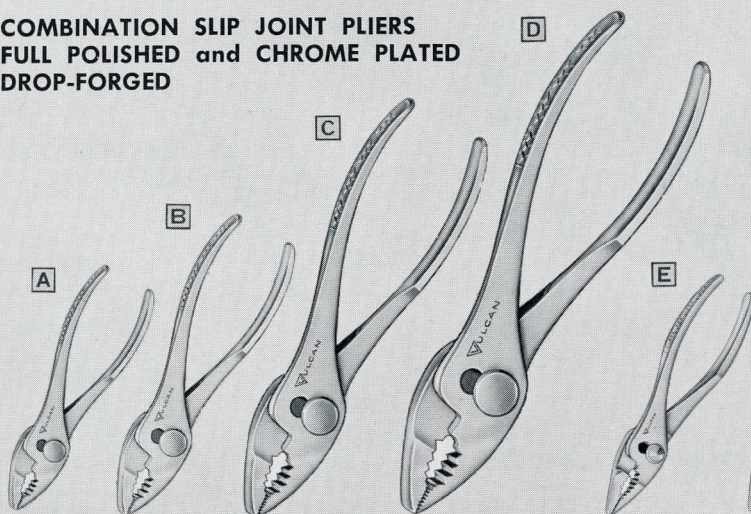
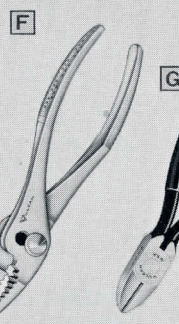
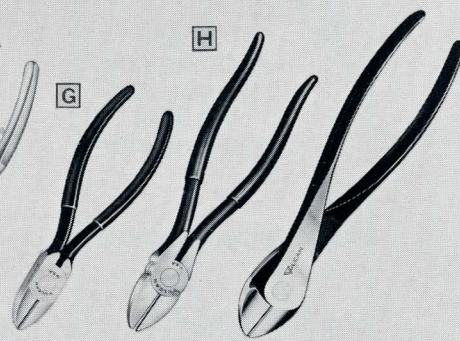
Stock No.	Tip Size	Blade Lgth.	O. A. Lgth.
SDW-5	3/16 x .028	2	4 3/4
SDW-6	7/32 x .035	2	6 1/4
SDW-8	7/32 x .035	4	8 1/4
SDW-10	7/32 x .035	6	10 1/4
SDW-11	7/32 x .040	6	11 3/8
SDW-13	9/32 x .040	8	13 3/8
SDW-14	5/16 x .046	8	14 1/2

**D SDS-7W SCREWDRIVER SET**

Seven piece Screwdriver Set of exceptional quality at an economical price.

Stock No.	Description
SDW-5	2" x 1/8" Sq. for Slotted Screws
SDW-6	2" x 3/16" Sq. for Slotted Screws
SDW-8	4" x 3/16" Sq. for Slotted Screws
SDW-10	6" x 3/16" Sq. for Slotted Screws
SDW-11	6" x 1/4" Sq. for Slotted Screws
SDW-13	8" x 1/4" Sq. for Slotted Screws
SDW-14	8" x 5/16" Sq. for Slotted Screws



**COMBINATION SLIP JOINT PLIERS**  
 FULL POLISHED and CHROME PLATED  
 DROP-FORGED

**THIN NOSE  
COMBINATION  
SLIP-JOINT PLIERS**

**ELECTRICIANS AND  
HEAVY DUTY  
DIAGONAL CUTTING  
PLIERS**

**A PL-185 5" COMBINATION  
SLIP-JOINT PLIERS**

Handy miniature size combines strength and clearance. Drop-forged, chrome-plated.

**B PL-186 6" COMBINATION  
SLIP-JOINT PLIERS**

One of the most popular sizes. Milled teeth assure positive grip. Chrome-plated.

**C PL-188 8" COMBINATION  
SLIP-JOINT PLIERS**

This 8" size offers plenty of gripping power. Milled teeth, drop-forged.

**D PL-189 10" COMBINATION  
SLIP-JOINT PLIERS**

Plenty rugged for tough jobs. Firm grippers, good leverage. Chromed finish.

**E PL-195 5" THIN NOSE COMBINATION  
SLIP-JOINT PLIERS**

Very efficient for close-quarter work. Two position slip-joint. Fully polished and plated.

**F PL-196 6" THIN NOSE COMBINATION  
SLIP-JOINT PLIERS**

Drop-forged from selected steel. Thin nose gets in where others can't. Chrome-plated.

**G PL-15 5" ELECTRICIAN'S DIAGONAL  
CUTTING PLIERS**

Cutting edges are sharp and tough for long service life. Perfect size for delicate work.

**H PL-16P 6" CUTTERS, PLASTIC GRIPS  
PL-16 6" CUTTERS, WITHOUT GRIPS**

Cutting edges are sharp and tough for long life. Heads are fully polished. Two handle styles are available.

**I PL-17P 7" CUTTERS, PLASTIC GRIPS  
PL-17 7" CUTTERS, WITHOUT GRIPS**

Both Diagonal Cutters have polished heads. Your choice of grip styles. Specially hardened cutting edges.

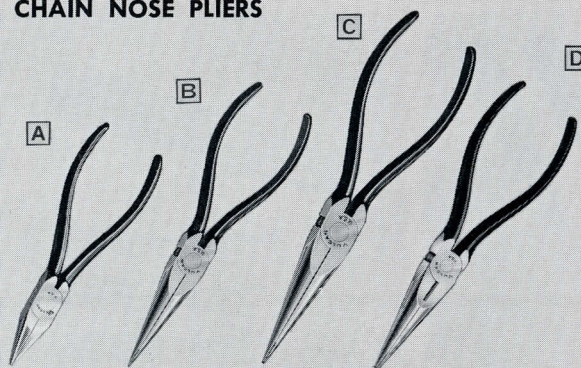
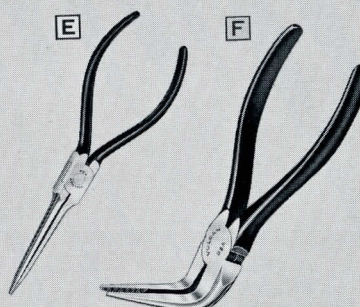
**J PL-18 7" HIGH-LEVERAGE, DIAGONAL  
CUTTING PLIERS**

These Extra Heavy Duty Diagonals feature short, sturdy jaws and joint pin placement to produce exceptional cutting leverage.

DROP-FORGED • HEAT-TREATED • HARDENED



JAWS OFFER SAFE, NON-SLIP GRIPPING POWER

**SHORT AND LONG  
CHAIN NOSE PLIERS**

**STRAIGHT AND CURVED  
NEEDLE NOSE PLIERS**

**FLAT NOSE  
"DUCKBILL" PLIERS**

**A PL-45 5" SHORT CHAIN NOSE PLIERS**

For fine mechanical work in automotive and electronics work. Jaws are scored. Drop-forged from selected steel, faces polished.

**B PL-46 6" LONG CHAIN NOSE PLIERS**

Long, thin nose for close quarters. Ideal for ignition and electrical work. Drop-forged from selected steel, faces polished.

**C PL-47 7" LONG CHAIN NOSE PLIERS**

Longer, thin nose and extra leverage for difficult jobs that still present limited working clearance. Drop-forged. Smooth jaws.

**D PL-56 6" LONG CHAIN NOSE PLIERS  
WITH SIDE CUTTER**

Long, thin nose for close quarters with the added convenience of side cutters. Ideal for ignition, electrical and electronics work. Excellent gripping power on small objects. Specially hardened cutters resist nicking. Drop-forged from selected steel. Polished jaws.

**E PL-66 6" NEEDLE NOSE PLIERS**

For light, fine mechanical work where small objects are difficult to reach. Gripping power is amazing for such long, slim jaws. Drop-forged from selected steel. Full polished faces and jaws.

**F PL-76 6" CURVED NEEDLE NOSE PLIERS**

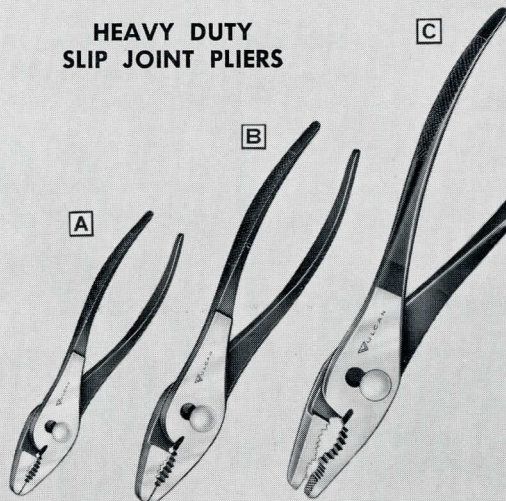
To get a firm grip on small objects, difficult to reach because of obstructions, try Vulcan's Curved Needle Nose Pliers. You'll never be stumped with a pair of these in your tool chest. Drop-forged from selected steel. Finely polished faces and jaws.

**G PL-86 6" FLAT NOSE "DUCKBILL" PLIERS**

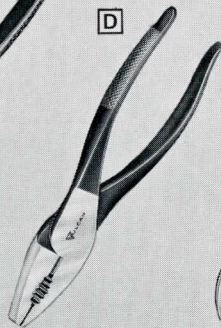
The long, flat gripping surfaces of Vulcan "Duckbill" Pliers are ideal for straightening and spacing metal fins on radiators, heat exchangers and other work in highly inaccessible places. Drop-forged from selected steel. Polished faces and jaws.



**HEAVY DUTY  
SLIP JOINT PLIERS**



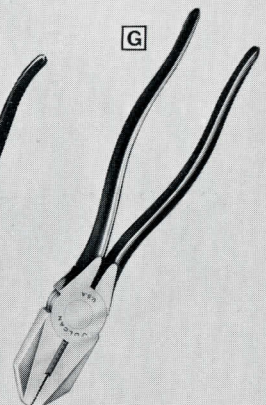
**MECHANIC'S  
SLIP JOINT  
PLIERS**



**ANGLE and PARROT NOSE  
BATTERY PLIERS**



**LINEMAN'S  
PLIERS**



**A PL-26 6" HEAVY DUTY  
SLIP-JOINT PLIERS**

Two-position slip-joint with easy action. Drop-forged from selected steel, faces polished.

**B PL-28 8" HEAVY DUTY  
SLIP-JOINT PLIERS**

Milled teeth and non-slip handle design make these pliers powerful grippers

**C PL-29 10" HEAVY DUTY  
SLIP-JOINT PLIERS**

Two sets of milled teeth in jaws plus the leverage to be gained from the long handles make these pliers a favorite for heavy duty.

**D PL-37 7" MECHANIC'S SIDE CUTTING  
SLIP-JOINT PLIERS**

Strong, well-contoured jaws with milled teeth. Side cutters are hardened for best cutting action and resistance to nicking or chipping. Knurled grip-pattern on handles for safe-firm hold. Drop-forged from selected steel. Faces polished.

**E PL-137 7" ANGLE NOSE BATTERY PLIERS**

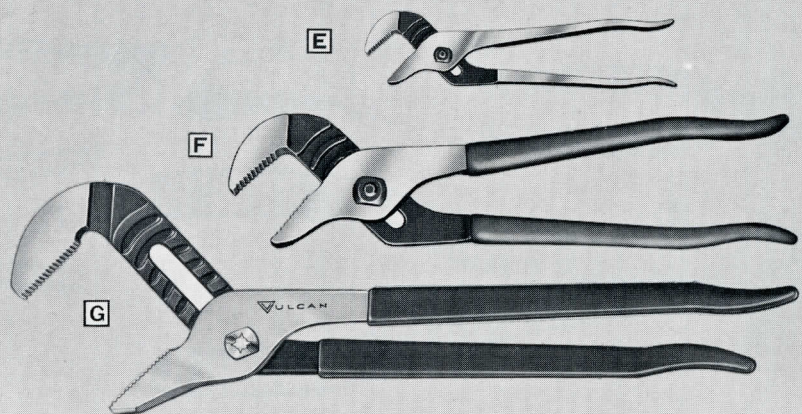
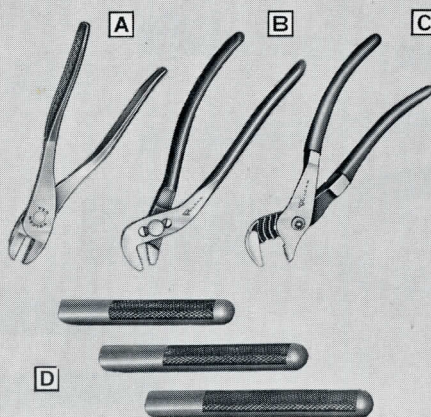
Sharp, milled teeth, angle of jaws and ample leverage offered by the long, knurled handles make these the most popular battery pliers. Even corroded terminal nuts yield to the grip and pressure you can exert with these drop-forged pliers.

**F PL-138 8" PARROT NOSE BATTERY PLIERS**

You'll find all the leverage you'll ever need with these sturdy, drop-forged pliers. Serrations in jaws offer sure grip on hex, square or even rounded terminal nuts. Parrot nose is angled to best advantage. Drop-forged from selected steel.

**G PL-128 8" LINEMAN'S HEAVY DUTY  
SIDE CUTTING PLIERS**

Most popular size in lineman's type. Ruggedly built with heavy-duty, blunt-nosed jaws. Will cut heavy wire quickly and easily. For best action and longest wear always cut close as possible to the plier joint. Drop-forged.



**A PL-94 4 1/2" MIDGET IGNITION PLIERS**  
Tiny Pliers for intricate work. Excellent for all electrical, TV, and radio work.

**B PL-95 5" IGNITION PLIERS**  
Three position slip-joint for parallel jaw action. Excellent for all ignition work.

**C PL-105P 5" GROOVE LOCK IGNITION  
PLIERS WITH PLASTISOL HANDLES**  
**PL-105 5" GROOVE LOCK IGNITION  
PLIERS WITHOUT PLASTISOL HANDLES**

All the advantages of midget size plus the added feature of groove lock construction. Heads are fully polished. Handles are available with or without plastic grips. Handles without grips have gunmetal finish.

**D PG-6 6" "TENITE" PLIER GRIPS (Pair)**  
**PG-7 7" "TENITE" PLIER GRIPS (Pair)**  
**PG-8 8" "TENITE" PLIER GRIPS (Pair)**

Highest quality "Tenite" molded plier grips to insulate your plier handles. PG-6 fits 5" and 6" pliers. PG-8 fits 8" and 9" pliers. Best results are obtained by dipping the grips in hot water before sliding them on plier handles.

**E PL-106 6 1/2" GROOVE LOCK UTILITY PLIERS**  
Unusually handy medium sized Pliers with five adjusting positions that provide parallel jaw openings up to 1". The groove lock construction features machined bearing surfaces for smooth action and adjustment, as well as positive, powerful gripping leverage.

**F PL-110P 10" GROOVE LOCK UTILITY  
PLIERS WITH PLASTISOL HANDLES**  
**PL-110 10" GROOVE LOCK UTILITY  
PLIERS WITHOUT PLASTISOL HANDLES**

Heavy duty size for the tough jobs. These 10" Pliers have leverage and gripping power to spare with parallel jaw opening at five positions. Maximum parallel jaw opening 1 3/8". Available with or without handle grips.

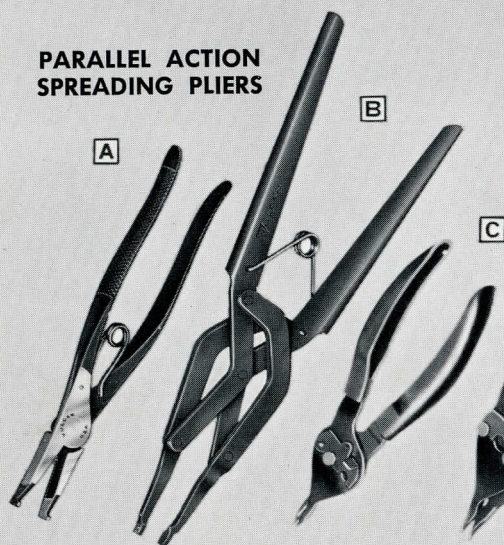
**G PL-114P 14" GROOVE LOCK UTILITY  
PLIERS WITH PLASTISOL GRIPS**

For the big jobs requiring a firm grip, plenty of leverage and brute strength, you'll find the answer in the 14" Pliers. Adjusts to seven different positions with maximum parallel jaw opening of 2 13/16".





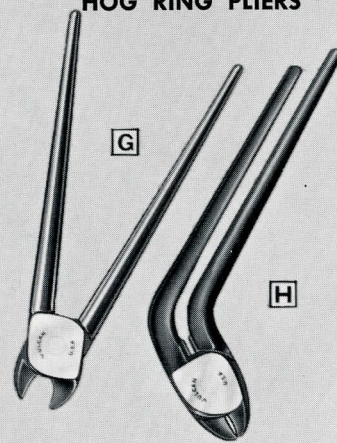
### PARALLEL ACTION SPREADING PLIERS



### TRUARC® CONVERTIBLE PLIERS



### STRAIGHT and 45° HANDLE HOG RING PLIERS



#### A PL-227 7" "HORSE-SHOE" LOCK RING PLIERS

For spreading "horseshoe" lock rings on brakes, transmissions and differentials. Spring holds jaws in closed position.

#### B PL-310 10" PARALLEL ACTION SPREADING PLIERS

Lever action provides lots of power with little pressure for quick, easy lock-ring removal and replacement.

#### C PL-12 6" CONVERTIBLE PLIERS FOR INTERNAL OR EXTERNAL RINGS

Quickly converted for use on either internal or external TRUARC retaining rings. Tip diameter .038", overall length 5¾".

#### D PL-34 8" CONVERTIBLE PLIERS FOR INTERNAL OR EXTERNAL RINGS

Quickly converted for use on either internal or external TRUARC retaining rings. Tip diameter .070", overall length 7⅞".

#### E PL-512S SNAP RING PLIER SET PL-501 INTERNAL PLIER ONLY PL-502 EXTERNAL RING PLIER ONLY

An ideal set of Retaining Ring Pliers for every mechanic. Consists of PL-501 for internal and PL-502 for external Snap Rings. Also included are one pair each of PL-512-1, PL-512-2, PL-512-3, and PL-512-4 interchangeable Tips described at "F". This set is a "must" for every transmission mechanic.

#### F REPLACEMENT TIPS FOR PL-512S

Stock No.	Description
PL-512-1	Straight Tips, .045", Pair .....
PL-512-2	Straight Tips, .060", Pair .....
PL-512-3	90° Bent Offset Tips, Pair .....
PL-512-4	45° Bent Offset Tips, Pair .....

#### G PL-147 7" HOG RING PLIERS

Designed for the body trimmer, the jaws are grooved to hold hog rings securely and prevent slipping and upholstery damage.

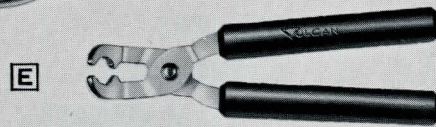
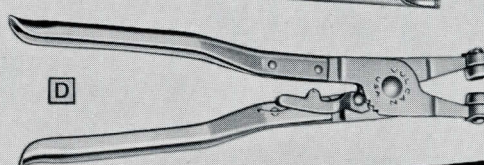
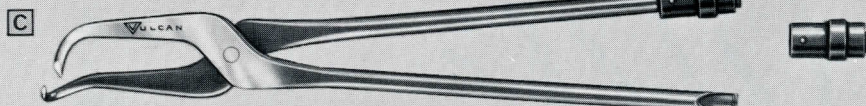
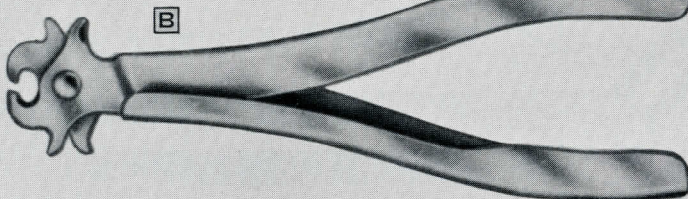
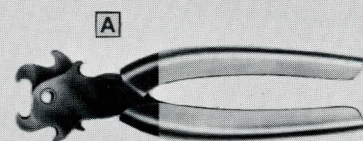
#### H PL-157 7" BENT HOG RING PLIERS

The identical Plier to PL-147 above, except that the handles are bent at 45°.

FOR TIRE • CHAIN, BRAKE AND HOSE SERVICE



MAKE YOUR WORK EASIER • MORE PROFITABLE



#### A 690L 6-¾" TIRE CHAIN PLIERS

Powerful and efficient for repairing links on all passenger car tire chains. Here is a service you can perform quickly, easily with good profit at small investment. Made of selected steel with sturdy construction, weigh only 4 oz.

#### B 1390L 13" TIRE CHAIN PLIERS

Heavy duty, for repairing tire chain links on light trucks, as well as all passenger cars. 13" length gives plenty of leverage for speedy repair of links up to ⅝". This is a rugged tool made from high quality steel, yet weighs only 1½ lbs.

#### C PL-212 BRAKE SPRING PLIERS WITHOUT SOCKET PL-213 BRAKE SPRING PLIERS WITH SOCKET PL-213-1 SOCKET ONLY

Curved hook on one jaw securely engages eye of brake shoe return spring for removal and replacement of Lockheed, Bendix and other hydraulic or mechanical brake springs. End of one handle is notched to grip and remove brake shoe anchor caps. Detachable socket fits on other handle for removing springs set over a post. Drop-forged from selected steel and carefully finished for efficient, long service-life. Overall length, 12½".

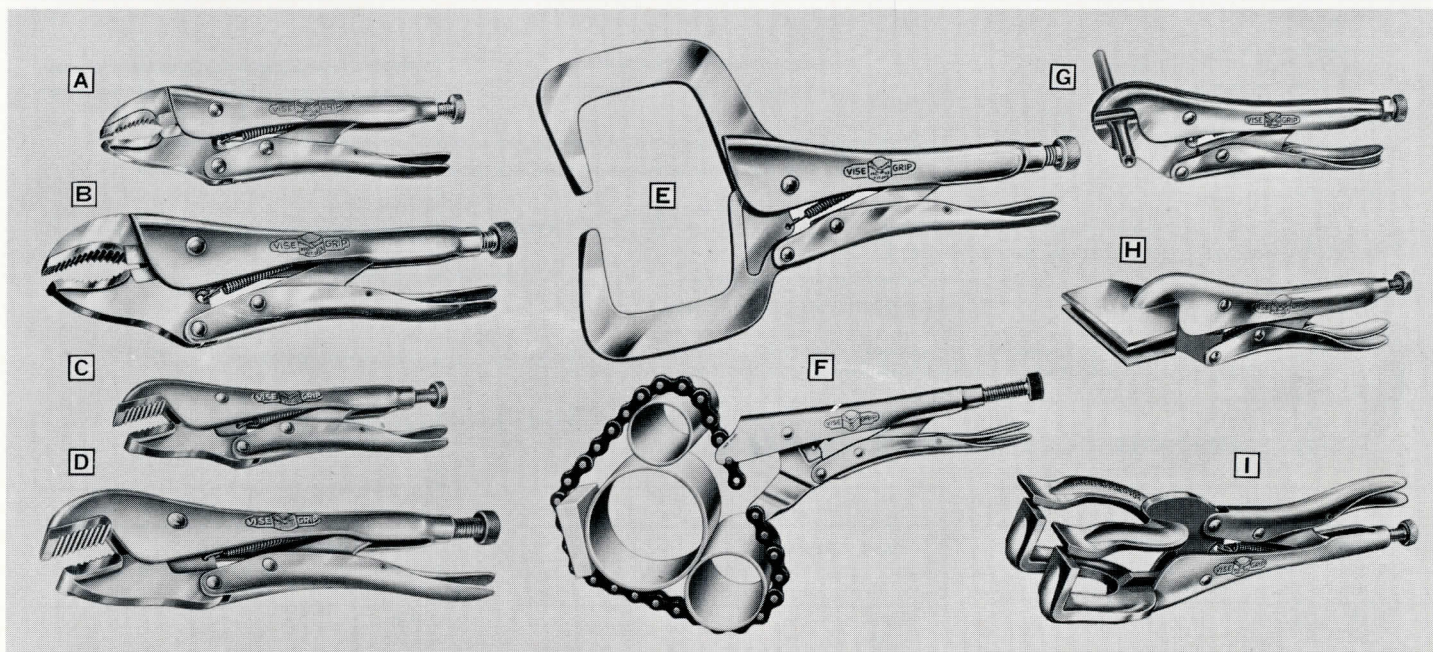
#### D HCP-1A HOSE CLAMP-RING PLIERS

A unique locking lever lays flat against the handle to provide free operation. This lever is spring loaded to lock in the compressed position enabling easy removal and replacement of the hose clamp, leaving both hands free. The notched jaw heads rotate in a full circle. Order HCP-1A-1 for a pair of extra jaws and locking clips.

#### E PL-400 INSULATED HOT WIRE PULLERS

Heavy red plastic grips protect you from shock when working around the ignition systems of cars and trucks. Heavy jaws are serrated and formed to grip wires securely with least possible insulation damage.





**A V-7CR VISE-GRIP Curved Jaw no Cutter**  
**V-7WR VISE-GRIP Curved Jaw and Cutter**  
**V-7-1 SPRING for 7" VISE-GRIPS**

Nose thickness only  $\frac{1}{4}$ ". Involute jaw curve permits jaws to put tremendous pressure on four points of any nut up to  $1\frac{1}{8}$ ". Excellent contact on rounds to  $1\frac{5}{8}$ " dia. Lgth., 7".

**B V-10CR VISE-GRIP Curved Jaw no Cutter**  
**V-10WR VISE-GRIP Curv. Jaw with Cutter**  
**V-10-1 SPRING for 10", 11" VISE-GRIPS**

Cutter model will cut  $\frac{1}{4}$ " bolts by taking progressive bites. This 10" size has  $\frac{3}{8}$ " jaw width. Takes nuts up to  $1\frac{5}{8}$ " and rounds up to  $1\frac{7}{8}$ " diameter. Made of alloy steel.

**C V-7R 7" VISE-GRIP Straight Jaw**

The  $\frac{3}{16}$ " jaw thickness provides a big, solid grip. Jaws open to  $1\frac{1}{8}$ ".

**D V-10R 10" VISE-GRIP Straight Jaw**

Adjusting jaws are  $\frac{5}{8}$ " thick and open to  $1\frac{1}{4}$ ". Capable of 1 ton gripping pressure.

**E V-11R VISE-GRIP "C" CLAMP**

Excellent for holding work pieces in alignment. Jaws open from 0- $3\frac{3}{4}$ ". Throat depth is  $2\frac{1}{2}$ ". Overall length, 11".

**F V-20R VISE-GRIP CHAIN WRENCH**

An all-purpose tool with a multitude of applications. Will solidly hold any shape or group of objects that the 19" chain will span.

**G V-7RR VISE-GRIP PINCH-OFF PLIERS**

Pinches off copper tubing instantly. Locks to leave both hands free to do other things. Ideal for emergencies, no shut-off valves needed. Length, 7".

**H V-8R VISE-GRIP SHEET METAL TOOL**

Eliminates tiresome hand gripping. Bends, forms, crimps and straightens, non-slip grip. Has throat reach of  $1\frac{3}{4}$ ". Length, 8".

**I V-9R VISE-GRIP WELDING CLAMP**

Makes small welding jobs a quick easy one-man operation. Deep-throated, U-shaped jaws provide excellent visibility.  $2\frac{3}{4}$ " wide jaws open to  $1\frac{5}{8}$ ". Length, 9".

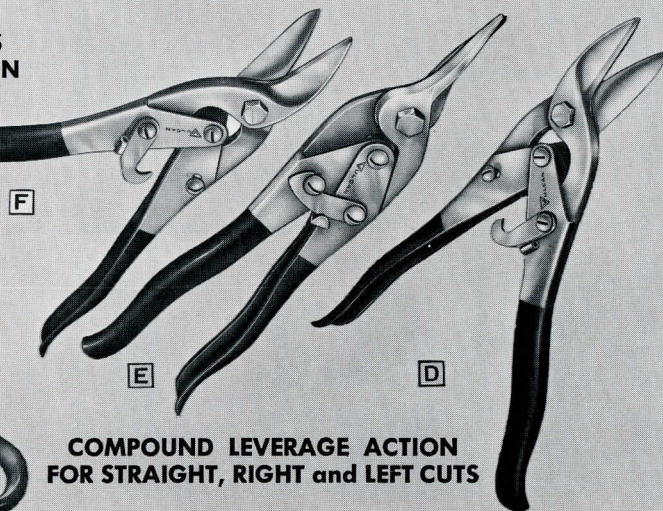
## DROP-FORGED SNIPS, FULLY GUARANTEED



## REGULAR AND COMPOUND LEVERAGE PATTERNS



**COMFORTABLE HANDLES**  
**SMOOTH CUTTING ACTION**



**COMPOUND LEVERAGE ACTION**  
**FOR STRAIGHT, RIGHT and LEFT CUTS**

**A TS-7 7" CIRCULAR SNIPS**

Perfect size for small intricate work. Smooth cutting edges are precision ground. Drop-forged from alloy steel, long wearing.

**B TS-10 10" CIRCULAR SNIPS**

This is a popular size for cutting circular, straight or irregular shapes. Blades designed to draw metal into jaws.

**C TS-12 12 $\frac{1}{4}$ " CIRCULAR SNIPS**

Plenty of leverage for cutting heavy gauge metals with least effort. Work equally well in right or left hand position.

**D MS-10R 10" RIGHT CUT SNIPS**

Compound leverage action makes it easy to cut hard, tough metals such as stainless steel. Drop-forged from finest alloy steels.

**E MS-10S 10" STRAIGHT CUT SNIPS**

Heavy pivot bolts add to smooth, easy cutting action. Drop-forged from alloy steel and heat-treated for extra toughness.

**F MS-10L 10" LEFT CUT SNIPS**

Accurately ground cutting edges, compound lever action and fine construction make these snips a pleasure to use.





Stock No.	Point or Width	Stock Size	Length
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**A MIDGET CHISELS AND PUNCHES**

Extremely handy size. Forged from alloy steel and heat-treated. Polished and plated.

C-108	1/4 Cold	1/4	4
C-306	3/16 Cape	5/16	4
P-104S	1/8 Pin	5/16	4
P-204S	1/8 Starter	5/16	4
P-410	Center Punch	5/16	4

**B ROUND NOSE CHISEL**

For cutting oil grooves in solid bearings.

C-412	3/8	3/8	7
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**C DIAMOND POINT CHISELS**

Invaluable for preparing and cleaning on welding work.

C-508	1/4	3/8	5 1/4
C-512	3/8	5/8	6

Stock No.	Width of Cut	Stock Size	Length
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**D CAPE CHISELS**

Widely used for cutting key ways and slots. Drop-forged. Tough cutting edges.

C-306	3/16	5/16	4
C-308	1/4	1/2	6 1/4
C-310	5/16	1/2	6 1/4

**E COLD-FLAT CHISELS**

Forged alloy steel. Heads mushroom slowly without chipping. Excellent finish.

C-108	1/4	1/4	4
C-110	5/16	1/4	5
C-112	3/8	3/8	5 1/2
C-116	1/2	3/8	6
C-120	5/8	1/2	6 1/2
C-124	3/4	5/8	7
C-128	7/8	3/4	8

Stock No.	Width of Cut	Stock Size	Length
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**F EXTRA LONG COLD CHISELS**

These are the chisels to use wherever long reach is needed. Forged alloy steel.

C-220	5/8	1/2	12
C-224	3/4	5/8	12
C-228	7/8	3/4	12

**G C-810 MUFFLER CUTTER**

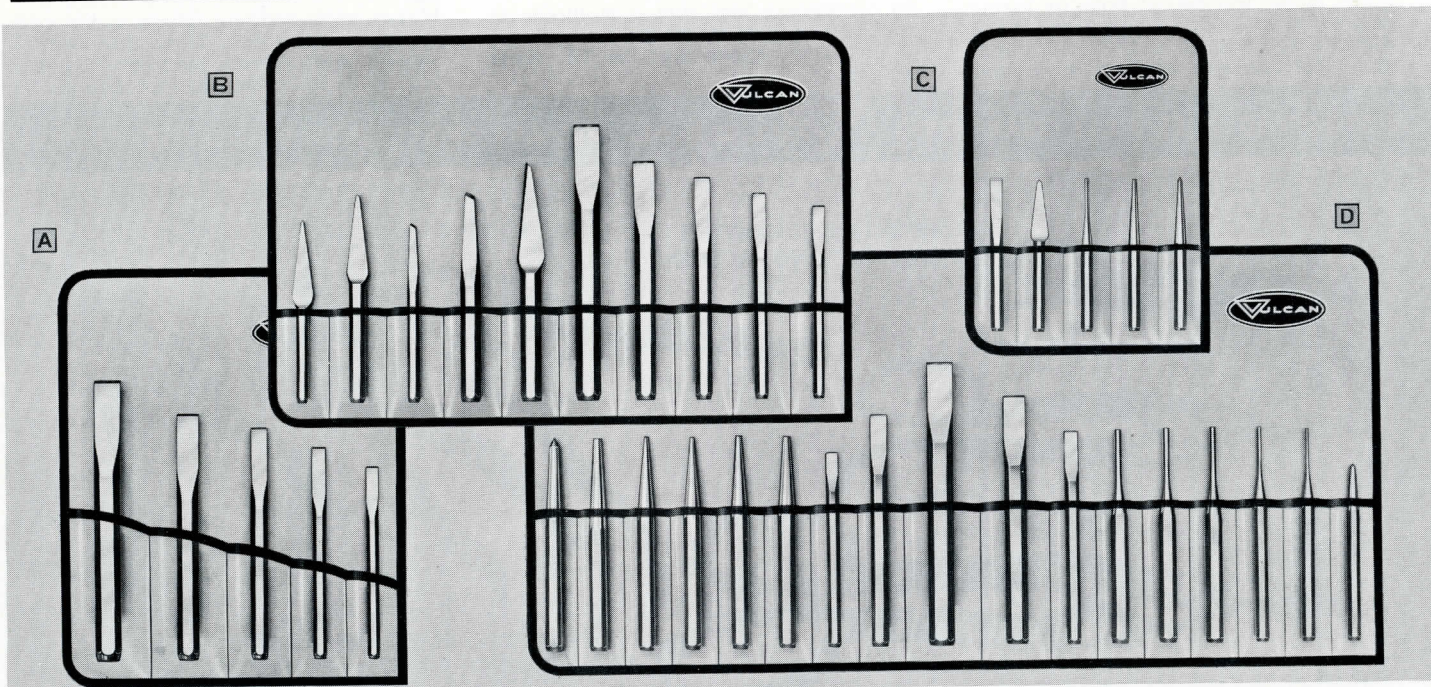
Forged from 1/2" alloy steel. Length, 10".

**H PINCH BARS** Forged alloy steel.

C-624	3/4	1/2	14
C-632	1	5/8	16

**I ROLL BARS** Forged alloy steel, lg. taper.

C-709	.....	3/8	9
C-715	.....	1/2	15
C-718	.....	5/8	18

**A LCC-5K SET in K-52 KIT**  
LCC-5 SET without Kit  
Contains 5 Cold Chisels

Stock No.	Description
C-112	Flat Ch's'l, 3/8" x 5 1/2"
C-116	Flat Ch's'l, 1/2" x 6"
C-120	Flat Ch's'l, 5/8" x 6 1/2"
C-124	Flat Ch's'l, 3/4" x 7"
C-128	Flat Ch's'l, 7/8" x 8"

**B LCC-10K CHISEL SET in K-101 Kit**  
LCC-10 CHISEL SET without Kit  
Contains 10 assorted Chisels.

Stock No.	Description	Stock No.	Description
C-112	Flat, 3/8" .....	C-306	Cape, 3/16" .....
C-116	Flat, 1/2" .....	C-310	Cape, 5/16" .....
C-120	Flat, 5/8" .....	C-412	Rd. Cp., 3/8" .....
C-124	Flat, 3/4" .....	C-508	Diam. 1/4" .....
C-128	Flat, 7/8" .....	C-512	Diam. 3/8" .....

**C LPC-5K SET in K-53 KIT**  
LPC-5 SET without Kit  
5 1/4" Punches and Chisels.

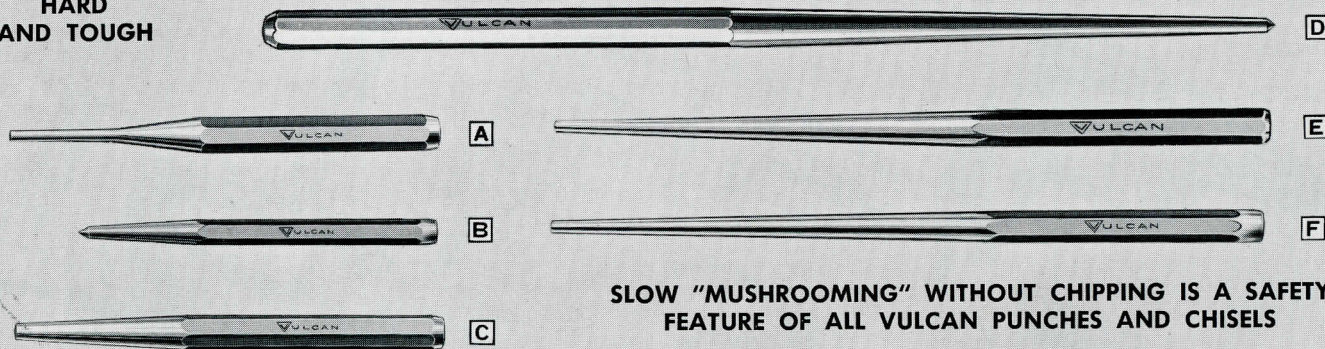
Stock No.	Description
C-108	Flat Chisel, 1/4" .....
C-306	Cape Chisel, 3/16" .....
P-104S	Pin Punch, 1/8" .....
P-204S	Start Punch, 1/8" .....
P-410	Center Punch .....

**D LPC-17K MASTER SET in K-171 Kit**  
LPC-17 MASTER SET without Kit  
Contains 17 assorted Punches and Chisels.

Stock No.	Description	Stock No.	Description	Stock No.	Description
C-112	Flt. Ch., 3/8"	P-104	Pin P., 1/8"	P-206	S. Pch., 3/16"
C-116	Flt. Ch., 1/2"	P-106	Pin P., 3/16"	P-208	S. Pch., 1/4"
C-120	Flt. Ch., 5/8"	P-108	Pin P., 1/4"	P-210	S. Pch., 5/16"
C-124	Flt. Ch., 3/4"	P-110	Pin P., 5/16"	P-412	C'tr Punch....
C-128	Flt. Ch., 7/8"	P-203	S. Pch., 3/32"	P-416	C'tr Punch....
P-103	Pin P., 3/32"	P-204	S. Pch., 1/8"		



UNIFORMLY  
HARD  
AND TOUGH



SLOW "MUSHROOMING" WITHOUT CHIPPING IS A SAFETY  
FEATURE OF ALL VULCAN PUNCHES AND CHISELS

**A PIN PUNCHES**

After using Starter Punch for loosening, finish pin or bolt removal with Pin Punch.

Stock No.	Point Diam.	Stock Size	Length
P-103	$\frac{3}{32}$	$\frac{3}{8}$	6
P-104	$\frac{1}{8}$	$\frac{3}{8}$	6
P-104S	$\frac{1}{8}$	$\frac{5}{16}$	4
P-105	$\frac{5}{32}$	$\frac{3}{8}$	6
P-106	$\frac{3}{16}$	$\frac{1}{2}$	6
P-108	$\frac{1}{4}$	$\frac{1}{2}$	6
P-110	$\frac{5}{16}$	$\frac{1}{2}$	6

**B CENTER PUNCHES**

Forged from selected steel, heat-treated for proper hardness and toughness.

Stock No.	Class	Stock Size	Length
P-410	Midget	$\frac{5}{16}$	4
P-412	Standard	$\frac{3}{8}$	5
P-416	Heavy Duty	$\frac{1}{2}$	6

**C STARTER PUNCHES**

Shaft has gradual taper from point. In driving out pins and bolts start with this punch design.

Stock No.	Point Diam.	Stock Size	Length
P-203	$\frac{3}{32}$	$\frac{1}{2}$	6
P-204	$\frac{1}{8}$	$\frac{1}{2}$	6
P-204S	$\frac{1}{8}$	$\frac{5}{16}$	4
P-205	$\frac{5}{32}$	$\frac{1}{2}$	6
P-206	$\frac{3}{16}$	$\frac{1}{2}$	6
P-208	$\frac{1}{4}$	$\frac{1}{2}$	6
P-210	$\frac{5}{16}$	$\frac{1}{2}$	6

**D ALIGNING PUNCH**

Extra long for line-up work involved in various types of assembly operations. Can also be used as a center punch.

Stock No.	Stock Size	Length
P-514	$\frac{5}{8}$	14

**E HEAVY DUTY PUNCHES**

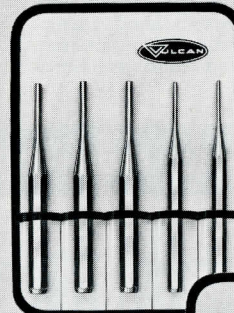
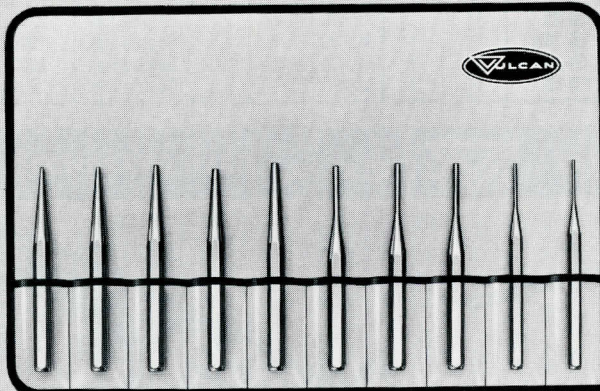
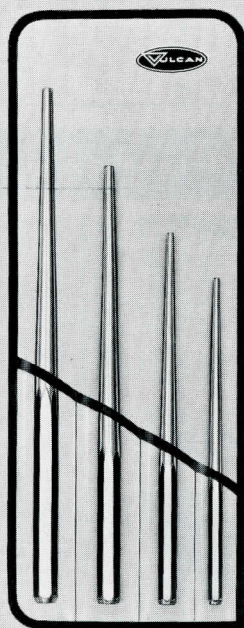
Heavy duty starter-type punches. Shafts have gradual taper from points. Taper is nicely polished.

Stock No.	Point Diam.	Stock Size	Length
P-210HD	$\frac{5}{16}$	$\frac{5}{8}$	10
P-212HD	$\frac{3}{8}$	$\frac{3}{4}$	10

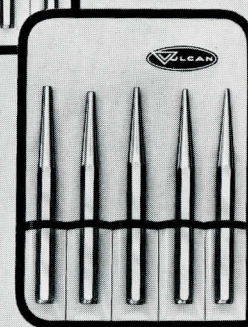
**F LONG TAPER PUNCHES**

Many assembly and line-up jobs require the use of extra-long, taper punches. Forged, heat-treated, well finished.

Stock No.	Point Diam.	Stock Size	Length
P-305	$\frac{5}{32}$	$\frac{3}{8}$	9
P-306	$\frac{3}{16}$	$\frac{1}{2}$	10
P-308	$\frac{1}{4}$	$\frac{5}{8}$	12



DURABLE  
VINYL  
PLASTIC  
KITS



VULCAN PUNCHES AND CHISELS  
IN CAREFULLY SELECTED SET ASSORTMENTS  
ADD CONVENIENCE AND NEATNESS  
TO ANY TOOL COLLECTION

**A TIPS, POINTS and CUTTING EDGES PROPERLY HEAT-TREATED**

**A LP-4K SET in K-43 Kit**  
LP-4 SET without Kit  
4 Lg. Taper, 1 Aligning Pch.

Stock No.	Description
P-305	Long Punch, 9".....
P-306	Long Punch, 10".....
P-308	Long Punch, 12".....
P-514	Align Punch, 14".....

**B LP-10K PUNCH SET in K-101 Kit**  
LP-10 PUNCH SET without Kit  
Contains assortment of 5 Pin & 5 Str. Pchs.

Stock No.	Description	Stock No.	Description
P-103	Pin Punch, $\frac{3}{32}$ "	P-203	Start Punch, $\frac{3}{32}$ "
P-104	Pin Punch, $\frac{1}{8}$ "	P-204	Start Punch, $\frac{1}{8}$ "
P-106	Pin Punch, $\frac{3}{16}$ "	P-206	Start Punch, $\frac{3}{16}$ "
P-108	Pin Punch, $\frac{1}{4}$ "	P-208	Start Punch, $\frac{1}{4}$ "
P-110	Pin Punch, $\frac{5}{16}$ "	P-210	Start Punch, $\frac{5}{16}$ "

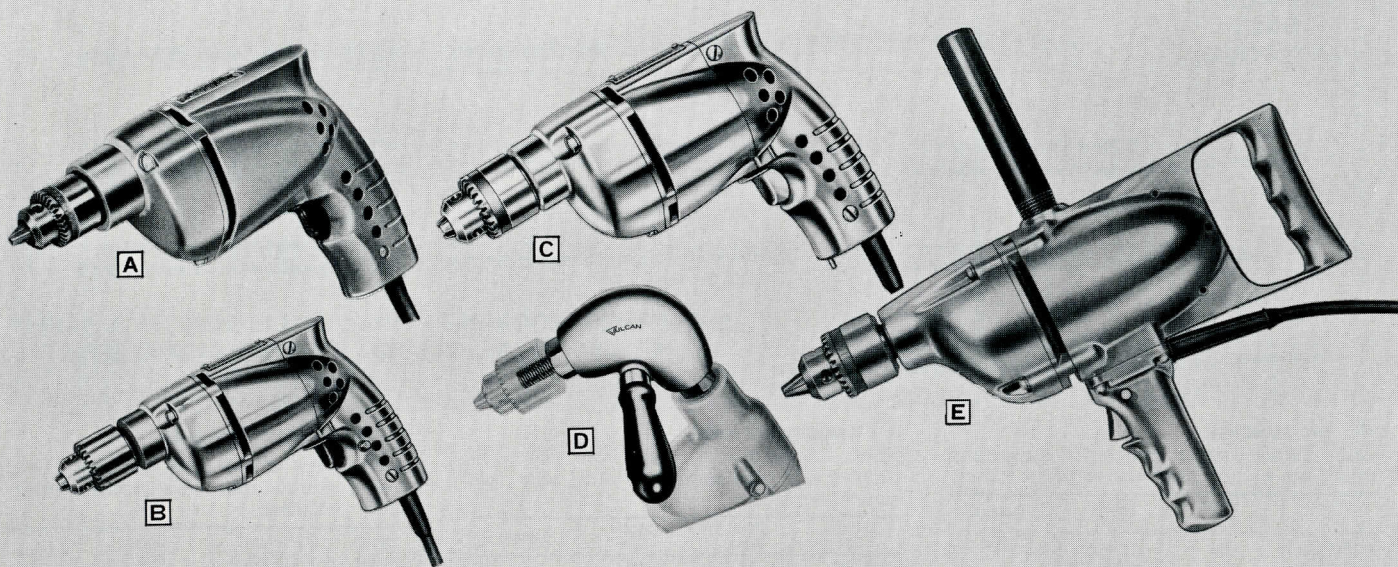
**C LP-5K SET in K-53 Kit**  
LP-5 SET without Kit  
Contains 5 asstd. Pin Pchs.

Stock No.	Description
P-103	Pin Punch, $\frac{3}{32}$ ".....
P-104	Pin Punch, $\frac{1}{8}$ ".....
P-106	Pin Punch, $\frac{3}{16}$ ".....
P-108	Pin Punch, $\frac{1}{4}$ ".....
P-110	Pin Punch, $\frac{5}{16}$ ".....

**D LPS-5K SET in K-53 Kit**  
LPS-5 SET without Kit  
Contains 5 asstd. Str. Pchs.

Stock No.	Description
P-203	Start Punch, $\frac{3}{32}$ ".....
P-204	Start Punch, $\frac{1}{8}$ ".....
P-206	Start Punch, $\frac{3}{16}$ ".....
P-208	Start Punch, $\frac{1}{4}$ ".....
P-210	Start Punch, $\frac{5}{16}$ ".....



**A ED-25 1/4" ELECTRIC DRILL**

A new concept in performance and versatility for 1/4" drills. Power boosted to 2.7 amps. and geared to 2250 RPM, they have more than ample torque. Housings machined for attachments to be driven off the spindle. Spindle bearings are ball thrust, others are self-lubricating sleeve. Single pole, locking switch.

**B ED-25H 1/4" H.D. ELECTRIC DRILL**

Double gear reduction for high-torque 1/4" drilling in sheet metal, structural steel and most harder metals. Trigger switch with lock and automatic release housed in pistol grip. Polished, die cast aluminum housing. Ball bearing spindle and armature. Hardened alloy gears.

**C ED-37 3/8" ELECTRIC DRILL**

Recommended for 3/8" holes in steel or hole saws and carbide-tipped masonry drill bits. Full polished, light-weight die cast aluminum housing. Ball thrust spindle bearings. Other bearings are self-lubricating bronze. Gears are hardened alloy steel, grease lubricated. Locking single pole switch, automatic release.

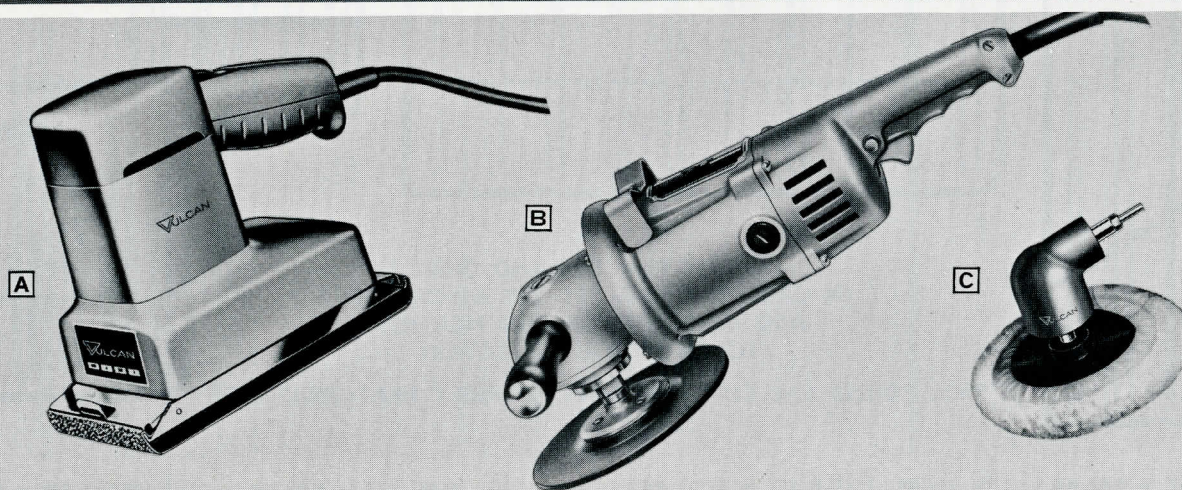
**D RAD-1 RIGHT ANGLE DRIVE**

For 1/4" and 3/8" drills. Steel gears with 1 to 1 ratio. Fits all 3/8"-24 spindles.

**E ED-50 1/2" ELECTRIC DRILL**

The most powerful 1/2" drill in its class. Its rugged 3.0 amp. motor delivers ample power for drilling up to 1/2" in steel and 1 1/2" in wood. It has more built-in power, more solid, dependable drilling punch than any comparable drill available. Has locking button for continuous use with automatic trigger release. Pipe handle for extra heavy work is removable. Die cast aluminum housing. Hardened alloy steel gears are grease lubricated. Ball thrust spindle bearings, others are bronze.

Stock No.	Capacity		Motor			3 Jaw Chuck	No Load R.P.M.	Cord		Overall Length
	Steel	Wood	Current	Cycles	Amps.			Gauge	Length	
ED-25	1/4	1/2	AC/DC	25/60	2.7	Geared Key	2250	18, 2 Cond.	6 Ft.	8 1/2
ED-25H	1/4	1/2	AC/DC	25/60	2.5	Geared Key	1800	18, 3 Cond.	7 Ft.	8 1/2
ED-37	3/8	3/4	AC/DC	25/60	2.5	Geared Key	1000	18, 3 Cond.	7 Ft.	9 1/2
ED-50	1/2	1 1/2	AC/DC	25/60	3.0	Geared Key	450	18, 3 Cond.	7 Ft.	15

**A ES-1 ORBITAL SANDER**

Wherever a fine satin finish is desired, this tool will produce 12 times faster than is possible by hand. The sanding shoe has a sponge rubber face so that it may be used with wet and dry abrasives. The 3 3/4" x 7 1/4" shoe uses standard abrasive sheets cut in thirds. 4500 no load orbits per minute on a 3/32" diameter.

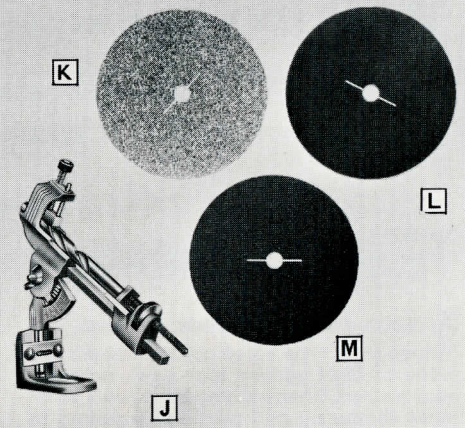
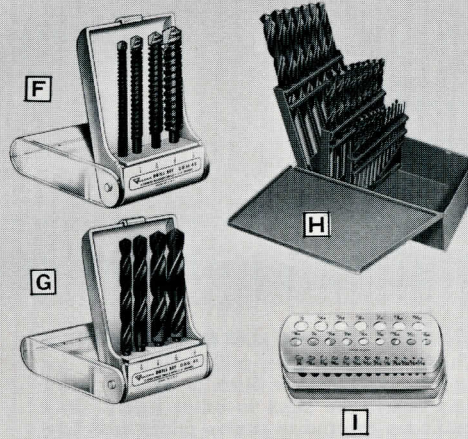
**B ES-7 7" ROTARY SANDER**

A general purpose Sander-Grinder with features unequalled in its class. Gears are spiral bevel chrome-nickel steel. Grease sealed bearings are used throughout. The AC/DC motor draws 7.5 amps. and produces a no load speed of 5000 RPM. Housing is lightweight cast aluminum and measures 19" overall. Discs are on pg. 51.

**C BSA-1 SANDER-POLISHER ATTACH.**

Converts 1/4" electric drills into an efficient power Buffer-Sander. Has smooth running, grease sealed lubrication. Steel gears are machine cut and bearings are self-lubricating bronze. Ratios of 1 to 2 and 2 to 1 drill speed are attained by changing drill from one end to the other. Includes 1 ea. pad and bonnet and 2 discs.



**FRACTIONAL HIGH SPEED DRILLS**

Fractional Size	Stock No.	Overall Length	Length of Twist
1/16	DB-1/16	1 7/8	7/8
5/64	DB-5/64	2	1
3/32	DB-3/32	2 1/4	1 1/4
7/64	DB-7/64	2 5/8	1 1/2
1/8	DB-1/8	2 3/4	1 5/8
9/64	DB-9/64	2 7/8	1 3/4
5/32	DB-5/32	3 1/8	2
11/64	DB-11/64	3 1/4	2 1/8
3/16	DB-3/16	3 1/2	2 1/4
13/64	DB-13/64	3 5/8	2 1/2
7/32	DB-7/32	3 3/4	2 1/2
15/64	DB-15/64	3 7/8	2 5/8
1/4	DB-1/4	4	2 3/4
17/64	DB-17/64	4 1/8	2 7/8
9/32	DB-9/32	4 1/4	2 5/8
19/64	DB-19/64	4 5/8	3 1/8
5/16	DB-5/16	4 1/2	3 1/4
21/64	DB-21/64	4 5/8	3 1/2
11/32	DB-11/32	4 3/4	3 1/2
23/64	DB-23/64	4 7/8	3 1/2
3/8	DB-3/8	5	3 5/8
25/64	DB-25/64	5 1/8	3 3/4
13/32	DB-13/32	5 1/4	3 3/4
27/64	DB-27/64	5 3/8	3 5/8
7/16	DB-7/16	5 1/2	4 1/8
29/64	DB-29/64	5 5/8	4 1/4
15/32	DB-15/32	5 3/4	4 1/2
31/64	DB-31/64	5 7/8	4 3/4
1/2	DB-1/2	6	4 1/2

**WIRE GAUGE HIGH SPEED DRILLS**

Wire Size	Deci- mal Size	Stock No.	Lgth.	Wire Size	Deci- mal Size	Stock No.	Lgth.
1	.2280	DB-1	3 7/8	31	.1200	DB-31	2 3/4
2	.2210	DB-2	3 7/8	32	.1160	DB-32	2 3/4
3	.2130	DB-3	3 3/4	33	.1130	DB-33	2 5/8
4	.2090	DB-4	3 3/4	34	.1110	DB-34	2 5/8
5	.2055	DB-5	3 3/4	35	.1100	DB-35	2 5/8
6	.2040	DB-6	3 3/4	36	.1065	DB-36	2 1/2
7	.2010	DB-7	3 3/4	37	.1040	DB-37	2 1/2
8	.1990	DB-8	3 3/8	38	.1015	DB-38	2 1/2
9	.1960	DB-9	3 3/8	39	.0995	DB-39	2 5/8
10	.1935	DB-10	3 3/8	40	.0980	DB-40	2 5/8
11	.1910	DB-11	3 1/2	41	.0960	DB-41	2 3/8
12	.1890	DB-12	3 1/2	42	.0935	DB-42	2 1/4
13	.1850	DB-13	3 1/2	43	.0890	DB-43	2 1/4
14	.1820	DB-14	3 3/8	44	.0860	DB-44	2 1/8
15	.1800	DB-15	3 3/8	45	.0820	DB-45	2 1/8
16	.1770	DB-16	3 3/8	46	.0810	DB-46	2 1/8
17	.1730	DB-17	3 3/8	47	.0785	DB-47	2
18	.1695	DB-18	3 1/4	48	.0760	DB-48	2
19	.1660	DB-19	3 1/4	49	.0730	DB-49	2
20	.1610	DB-20	3 1/4	50	.0700	DB-50	2
21	.1590	DB-21	3 1/4	51	.0670	DB-51	2
22	.1570	DB-22	3 1/8	52	.0635	DB-52	1 7/8
23	.1540	DB-23	3 1/8	53	.0595	DB-53	1 7/8
24	.1520	DB-24	3 1/8	54	.0550	DB-54	1 7/8
25	.1495	DB-25	3	55	.0520	DB-55	1 7/8
26	.1470	DB-26	3	56	.0465	DB-56	1 3/4
27	.1440	DB-27	3	57	.0430	DB-57	1 3/4
28	.1405	DB-28	2 7/8	58	.0420	DB-58	1 5/8
29	.1360	DB-29	2 7/8	59	.0410	DB-59	1 5/8
30	.1285	DB-30	2 3/4	60	.0400	DB-60	1 5/8

**1/4" SHANK HIGH SPEED DRILLS**

Size	Stock No.	Shank Diam.	Flute Length	Overall Length
5/16	DBG-5/16	1/4	2 5/8	4
3/8	DBG-3/8	1/4	2 5/8	4
7/16	DBG-7/16	1/4	2 5/8	4
1/2	DBG-1/2	1/4	2 1/2	4

**SILVER AND DEMING DRILLS**

Size	Stock No.	Shank Diam.	Flute Length	Overall Length
9/16	DBG-9/16	1/2	3 3/4	6
5/8	DBG-5/8	1/2	3 3/4	6
11/16	DBG-11/16	1/2	3 3/4	6
3/4	DBG-3/4	1/2	3 3/4	6
13/16	DBG-13/16	1/2	3 3/4	6
7/8	DBG-7/8	1/2	3 3/4	6
15/16	DBG-15/16	1/2	3 3/4	6
1	DBG-1	1/2	3 3/4	6

**CARBIDE TIPPED MASONRY DRILLS**

For smooth, accurate holes up to 3" deep.

Size	Stock No.	Shank Diam.	Flute Length	Overall Length
1/4	DBM-1/4	1/4	3	4
5/16	DBM-5/16	1/4	3	4
3/8	DBM-3/8	1/4	3	4
1/2	DBM-1/2	1/4	3	4

**F DBM-45 CARBIDE MASONRY DRILL SET**  
Contains one each 1/4", 5/16", 3/8" and 1/2" diameters in folding plastic case. Dimensions and specifications are listed at "E".

**G DBG-45 1/4" SHANK H. S. DRILL SET**  
Contains one each 5/16", 3/8", 1/2" and 5/8" diameters in folding plastic case. Dimensions and specifications are listed at "C".

**FRACTIONAL HIGH SPEED DRILL SETS**

**DBF-135 DRILL SET in DH-13 Holder**  
**DBF-13 DRILL SET without Holder**  
13 Drills from 1/16" to 1/4" by 1/64" increments.  
**DBF-155 DRILL SET in DH-15 Holder**  
**DBF-15 DRILL SET without Holder**  
15 Drills from 1/16" to 1/2" by 1/32" increments.  
**DBF-295 DRILL SET in DH-29 Holder**  
**DBF-29 DRILL SET without Holder**  
29 Drills from 1/16" to 1/2" by 1/64" increments.

**WIRE GAUGE HIGH SPEED DRILL SET**

**DBN-605 DRILL SET in DH-60 Holder**  
**DBN-60 DRILL SET without Holder**  
60 Drills from #1 to #60 inclusive.

**H I DRILL HOLDERS AND STANDS less Drills**  
Metal Holders and Stands with hole sizes to fit corresponding drill. Sizes are clearly embossed in the metal at each location.

Stock No.	Style	Drill Capacity	Drill Sizes
DH-13	H	13 Drills	1/16" to 1/4" x 64ths
DH-15	H	15 Drills	1/16" to 1/2" x 32nds
DH-29	H	29 Drills	1/16" to 1/2" x 64ths
DH-60	H	60 Drills	#1 to #60 incl.
DS-129	I	29 Drills	1/16" to 1/2" x 64ths
DS-130	I	13 Drills	1/16" to 1/4" x 64ths
DS-160	I	60 Drills	#1 to #60 incl.

**DS-825 DRILL SHARPENER**

Repairs fractional drills from 1/8" to 3/4" and wire gauge from #1 to #30. Automatically produces clearance angle between 8° and 14° according to diameter of drill. Positive angle adjustment for all popular drill point angles. Complete with instructions.

**K L M SANDING DISCS**

Blue Fibre Combination Backing on glue bond. Green Fibre Backing on resin bond. Arbor holes are slotted and 7/8" diameter. 25 discs per standard package.

**GLUE BOND — OPEN COAT**

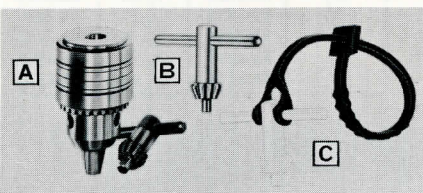
Stock No.	Grit	Dia.	Stock No.	Grit	Dia.
DSG-716	16	7	DSO-916	16	9 7/8

**GLUE BOND**

Stock No.	Grit	Dia.	Stock No.	Grit	Dia.
DSG-724	24	7	DSG-924	24	9 7/8
DSG-736	36	7	DSG-936	36	9 7/8
DSG-750	50	7	DSG-950	50	9 7/8

**RESIN BOND**

Stock No.	Grit	Dia.	Stock No.	Grit	Dia.
DSR-724	24	7	DSR-924	24	9 7/8
DSR-736	36	7	DSR-936	36	9 7/8
DSR-750	50	7	DSR-950	50	9 7/8

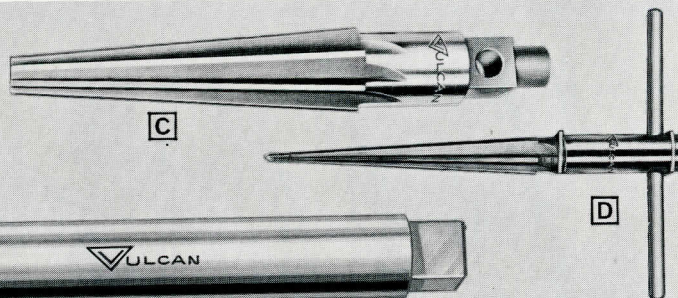
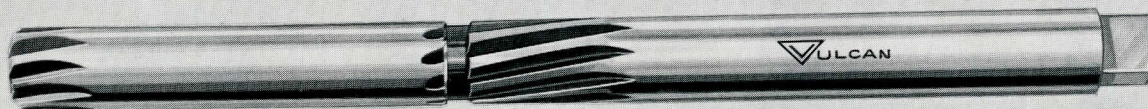
**DRILL CHUCKS WITH KEY**

Stock No.	Capacity	Thread Size	Uses Key #	Fits Drill #
DC-1A	0-1/4	3/8-24	DK-1	ED-25
DC-1AS	0-1/4	3/8-24	DK-1S	.....
DC-2A	0-3/8	3/8-24	DK-2	ED-37
DC-3B	0-3/8	1/2-20	DK-5	.....
DC-4A	0-1/2	3/8-24	DK-4	ED-25H
DC-5B	5/16-1/2	1/2-20	DK-5	ED-50

**CHUCK KEYS AND KEY HOLDER**

Key Stock No.	Chuck #	Fits Drill #	Holder Stock No.
DK-1	DC-1A	.....	DKH-1
DK-1S	DC-4A	ED-25	DKH-1
DK-2	DC-2A	.....	DKH-2
DK-4	DC-4A	ED-25H	DKH-2
DK-5	DC-3B & 5B	.....	DKH-3
DK-5S	.....	ED-50	DKH-3
DK-13	.....	ED-37	DKH-2&3



**A SOLID TYPE VALVE GUIDE REAMERS****B SOLID TYPE KING BOLT BUSHING REAMERS****A SOLID TYPE VALVE GUIDE REAMERS**

Vulcan solid type valve guide reamers are made of high quality tool steel, properly heat-treated. Unequally spaced flutes eliminate chattering and permit sharpening to a keen edge for free cutting.

Fractional	Decimal	Metric	Stock No.	Length
$\frac{3}{16}$	.3125	7.94 mm.	RS-312	7
$\frac{1}{8}$	.3437	8.73 mm.	RS-343	7
$\frac{1}{4}$	.3590	9.12 mm.	RS-359	7
$\frac{3}{8}$	.3750	9.52 mm.	RS-375	7
$\frac{1}{2}$	.3895	9.89 mm.	RS-389	7
.397 std.	.3970	10.09 mm.	RS-397	7
$\frac{7}{16}$	.4375	11.11 mm.	RS-437	7
$\frac{1}{2}$	.4530	11.51 mm.	RS-453	7
$\frac{1}{2}$	.5000	12.70 mm.	RS-500	9

**B SOLID TYPE KING BOLT BUSHING REAMERS**

These reamers have milled flutes on the front end to remove burrs or excess metal and allow the pilot to enter freely. Both ends are ground to act as pilots to insure perfect alignment. Use with cutting oil.

**RS-813** Size, .8135", length, 14". For all A, B, 6 and V-8 Ford pass. cars 1928-53;  $\frac{1}{2}$ ,  $\frac{3}{4}$  and 1-ton trucks including F-1, F-2 and F-3, 1928-52; Mercury cars 1939-48 and 1952-53.

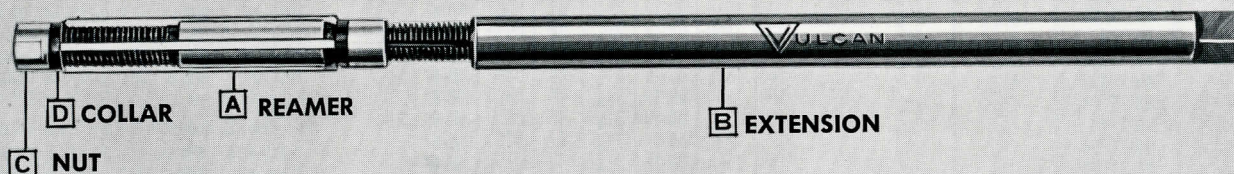
**RS-796** Size, .7965, length 14". For Plym., Dodge, DeSoto, Chrysler, 1940-56 (except 7 and 8 pass. sedan, limo., estate and station wagon); all Kaiser and Henry J. 1946-55;  $\frac{1}{2}$ ,  $\frac{3}{4}$  and 1-ton Dodge trucks using .795" king bolts.

**C RT-2 REPAIRMAN'S TAPER REAMER**

Range  $\frac{1}{8}$ " to 1", length overall,  $6\frac{3}{4}$ ". Very useful for removing burrs, enlarging and aligning holes in sheet metal, aluminum, bronze, wood, plastic, etc. Also handy for starting taps. May be resharpened and still maintain full range.

**D RT-1 REPAIRMAN'S TAPER REAMER**

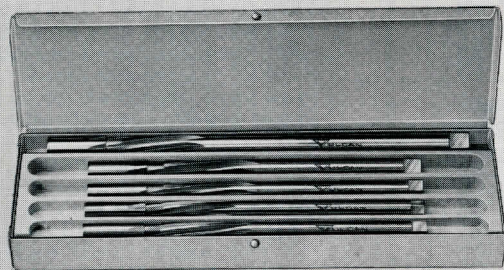
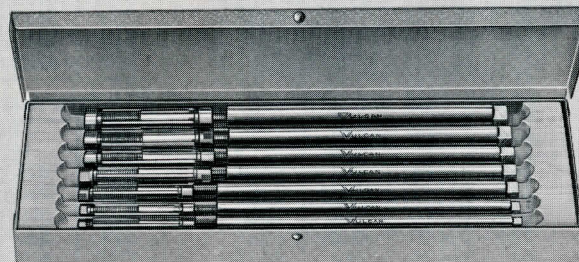
Range  $\frac{1}{8}$ " to  $\frac{1}{2}$ ", length overall,  $5\frac{5}{8}$ ". Made from high quality tool steel, properly heat-treated and accurately machined. T handle can be removed for use in an electric drill. Always turn clockwise in removing burrs, enlarging and aligning holes.

**ADJUSTABLE VALVE GUIDE REAMERS AND EXTENSIONS****ADJUSTABLE VALVE GUIDE REAMERS AND EXTENSIONS**

The most practical way to remove carbon, true-up and oversize valve guides to eliminate sticking valves. Made from selected

tool steel, properly heat-treated. Be sure to use cutting oil on all reaming operations.

Adjustable Reamer Capacities	Stock Numbers				No. of Blades	Lengths			Replacement Parts		
	A Reamer Only Nut and Collar	B Extension Only	A B C D Complete			Blades Only	Reamer's Only	Extensions Only	C Nuts		D Collars
			Stock No.	Thread					Stock No.		
1/4 to 3/32	RA-250	RE-250	RA-250E		4	1 5/8	3 1/2	5 1/2	RA-250N	10-32	RA-250C
3/32 to 1/8	RA-281	RE-281	RA-281E		4	1 5/8	3 3/4	5 1/2	RA-281N	10-32	RA-281C
1/8 to 1/16	RA-312	RE-312	RA-312E		4	1 5/8	4	5 1/2	RA-312N	1/4-28	RA-312C
1/16 to 3/16	RA-343	RE-343	RA-343E		4	1 7/8	4 1/4	5 5/8	RA-343N	1/4-28	RA-343C
3/16 to 1/4	RA-375	RE-375	RA-375E		4	1 7/8	4 1/2	5 5/8	RA-375N	3/8-24	RA-375C
1/4 to 5/16	RA-406	RE-406	RA-406E		6	1 7/8	4 3/4	5 5/8	RA-406N	5/16-24	RA-406C
5/16 to 3/8	RA-437	RE-437	RA-437E		6	1 7/8	5	5 5/8	RA-437N	5/16-24	RA-437C

**A****B****A RS-55 SOLID VALVE GUIDE REAMER SET in Metal Box**

Contains 5 standard size solid type valve guide reamers with unequally spaced flutes that eliminate chattering.

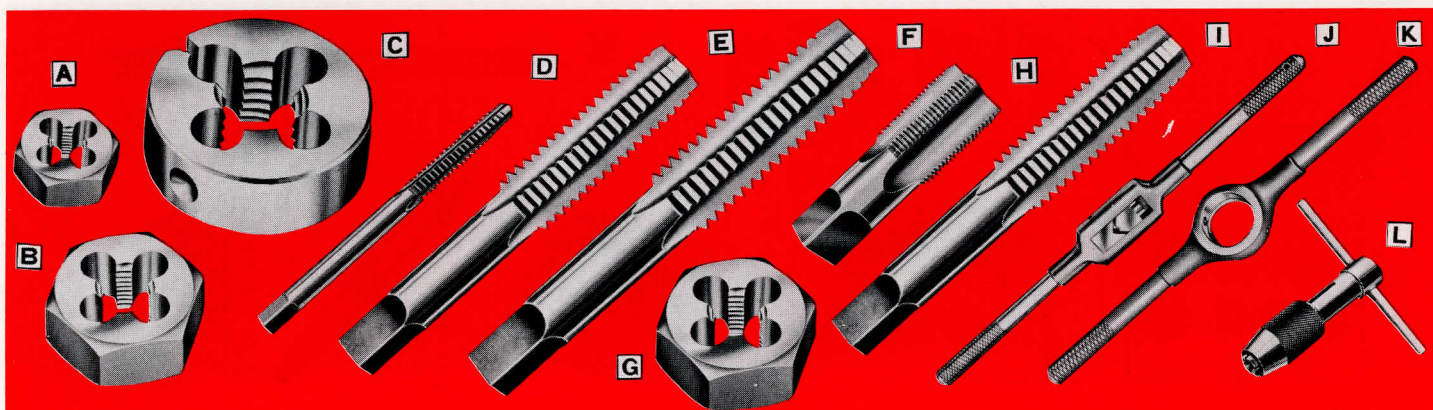
Stock No.	Description
RS-312	$\frac{3}{16}$ " Solid Valve Guide Reamer, 7" long.....
RS-343	$\frac{1}{8}$ " Solid Valve Guide Reamer, 7" long .....
RS-375	$\frac{1}{4}$ " Solid Valve Guide Reamer, 7" long.....
RS-437	$\frac{3}{8}$ " Solid Valve Guide Reamer, 7" long .....
RS-500	$\frac{1}{2}$ " Solid Valve Guide Reamer, 9" long.....

**B RA-75 ADJUSTABLE VALVE GUIDE REAMER SET in Box**

This set of 7 adjustable reamers covers the full range of sizes needed for valve work on all cars and trucks.

Stock No.	Description
RA-250E	$\frac{1}{4}$ " to $\frac{3}{32}$ " Capacity, Adjustable Valve Guide Reamer.....
RA-281E	$\frac{3}{32}$ " to $\frac{1}{8}$ " Capacity, Adjustable Valve Guide Reamer.....
RA-312E	$\frac{1}{8}$ " to $\frac{1}{16}$ " Capacity, Adjustable Valve Guide Reamer.....
RA-343E	$\frac{1}{16}$ " to $\frac{3}{16}$ " Capacity, Adjustable Valve Guide Reamer.....
RA-375E	$\frac{3}{16}$ " to $\frac{1}{4}$ " Capacity, Adjustable Valve Guide Reamer.....
RA-406E	$\frac{1}{4}$ " to $\frac{5}{16}$ " Capacity, Adjustable Valve Guide Reamer.....
RA-437E	$\frac{5}{16}$ " to $\frac{3}{8}$ " Capacity, Adjustable Valve Guide Reamer.....



**DIES**

Dies at "A" and "B" are run with standard wrench or socket. Use DS-2 for Dies at "C".

Thread Size	NC		NF		Hex. or Diam.
	Stock No.	Threads Per In.	Stock No.	Threads Per In.	

**A MACHINE SCREW DIES**

4	DC-4-36 Spec. automotive, 36 TPI				5/8
4	DC-4C	40	.....	.....	5/8
6	DC-6C	32	.....	.....	5/8
8	DC-8C	32	.....	.....	5/8
10	DC-10C	24	DC-10F	32	5/8
12	DC-12C	24	.....	.....	5/8

**B FRACTIONAL DIES 1/4" thru 1/2"**

1/4	DC-25C	20	DC-25F	28	1
5/16	DC-31C	18	DC-31F	24	1
3/8	DC-37C	16	DC-37F	24	1
7/16	DC-43C	14	DC-43F	20	1
1/2	DC-50C	13	DC-50F	20	1

**C FRACTIONAL DIES 9/16" thru 3/4"**

9/16	DC-56C	12	DC-56F	18	1 1/2
5/8	DC-62C	11	DC-62F	18	1 1/2
3/4	DC-75C	10	DC-75F	16	1 1/2

**TAPS**

Use TR-1 Handle for O-1/4 Taps; TR-2 for 1/4-1/2 Taps; TR-3 for 1/4-3/4 Taps.

Thread Size	NC		NF		O.A. Lgth.
	Stock No.	Threads Per In.	Stock No.	Threads Per In.	

**D MACHINE SCREW TAPS**

4	TC-4-36 Spec. automotive, 36 TPI				1 15/16
4	TC-4C	40	.....	.....	1 15/16
6	TC-6C	32	.....	.....	2 1/16
8	TC-8C	32	.....	.....	2 3/16
10	TC-10C	24	TC-10F	32	2 15/32
12	TC-12C	24	.....	.....	2 1/2

**E FRACTIONAL TAPS 1/4" thru 1/2"**

1/4	TC-25C	20	TC-25F	28	2 5/8
5/16	TC-31C	18	TC-31F	24	2 7/8
3/8	TC-37C	16	TC-37F	24	2 31/32
7/16	TC-43C	14	TC-43F	20	3 1/16
1/2	TC-50C	13	TC-50F	20	3 13/32

**F FRACTIONAL TAPS 9/16" thru 3/4"**

9/16	TC-56C	12	TC-56F	18	3 5/8
5/8	TC-62C	11	TC-62F	18	3 27/32
3/4	TC-75C	10	TC-75F	16	4 3/32

**G PIPE THREAD DIES**

IPT Size	Stock No.	Threads Per In.	Hex Size
1/8	DC-125P	27	1
1/4	DC-250P	18	1

**H PIPE THREAD TAPS**

IPT Size	Stock No.	Threads Per In.	O.A. Length
1/8	TC-125P	27	2 29/32
1/4	TC-250P	18	2 15/32

**I TC-14M METRIC SPARK PLUG TAP**

14 millimeter Tap for cleaning and threading spark plug holes. Length, 3 5/8".

**J TR-3 TAP HANDLE**

Use for fractional Tap sizes up to 3/4".

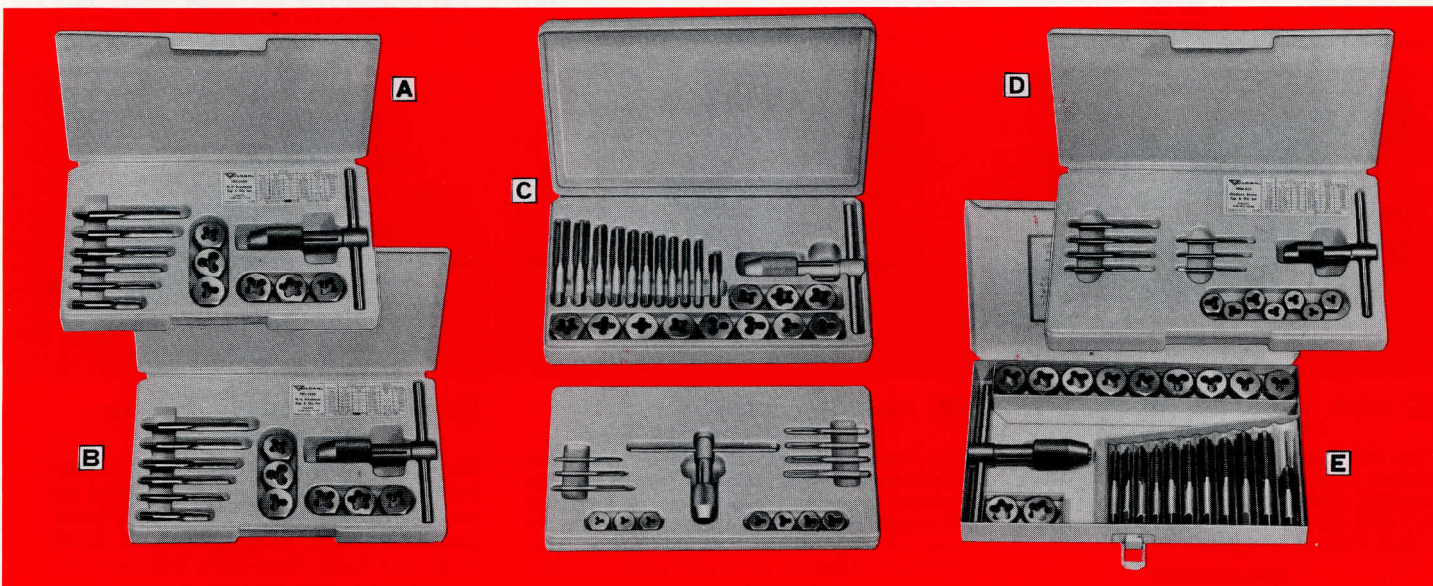
**K DS-2 DIE STOCK**

For 1 1/2" round Dies. Use with Dies at "C".

**L TR-1 TAP HANDLE****TR-2 TAP HANDLE**

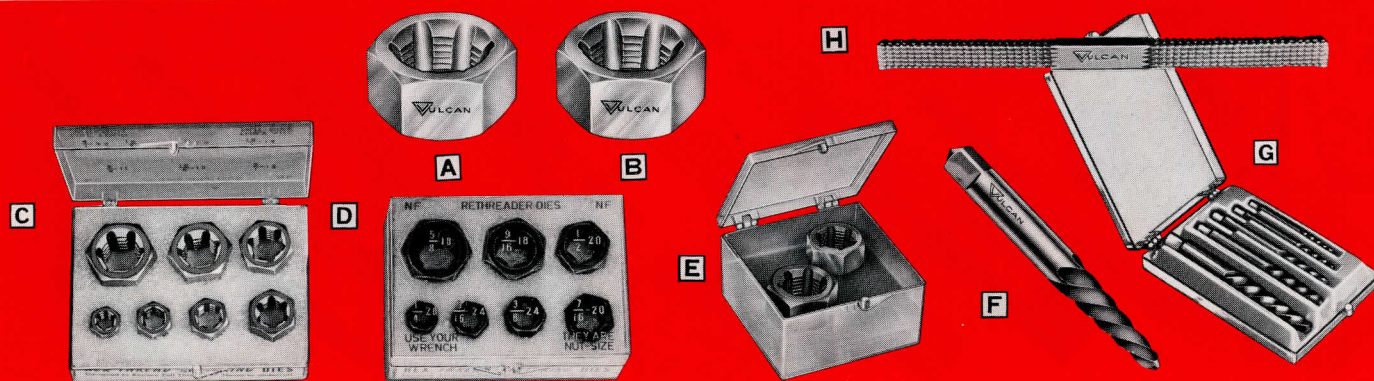
TR-1 for Machine Screw Taps shown at "A".

TR-2 for Fractional Taps to 1/2" shown at "B".

**TAP AND DIE SETS**

Code	Stock No.	DIES																		TAPS														HDLs.							
		DC-4-36	DC-4C	DC-6C	DC-8C	DC-10C	DC-10F	DC-12C	DC-25C	DC-25F	DC-31C	DC-31F	DC-37C	DC-37F	DC-43C	DC-43F	DC-50C	DC-50F	DC-125P	TC-4-36	TC-4C	TC-6C	TC-8C	TC-10C	TC-10F	TC-12C	TC-25C	TC-25F	TC-31C	TC-31F	TC-37C	TC-37F	TC-43C	TC-43F	TC-50C	TC-50F	TC-125P	TR-1	TR-2		
A	TDC-2550							●		●		●		●		●		●									●		●		●		●		●		●		●		●
B	TDF-2550								●		●		●		●		●		●									●		●		●		●		●		●		●	
C	TD-3800	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
D	TDM-412	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
E	TD-4							●	●	●	●	●	●	●	●	●	●	●	●								●	●	●	●	●	●	●	●	●	●	●	●	●		



**A NC HEX RETHREADER DIES**

Low-cost, quick, easy way to repair damaged threads on bolts and studs.

Size	Threads Per Inch	Stock No.	Hex Size
1/4	20	RDC-250	7/16
5/16	18	RDC-312	1/2
3/8	16	RDC-375	9/16
7/16	14	RDC-437	1 1/16
1/2	13	RDC-500	3/4
9/16	12	RDC-562	7/8
5/8	11	RDC-625	15/16
3/4	10	RDC-750	1 1/8

**B NF HEX RETHREADER DIES**

Repairs fine threads on damaged bolts and studs in a jiffy.

Size	Threads Per Inch	Stock No.	Hex Size
1/4	28	RDF-250	7/16
5/16	24	RDF-312	1/2
3/8	24	RDF-375	9/16
7/16	20	RDF-437	1 1/16
1/2	20	RDF-500	3/4
9/16	18	RDF-562	7/8
5/8	18	RDF-625	15/16
3/4	16	RDF-750	1 1/8

**C RDC-75 RETHREADER DIE SET FOR COARSE THREADS**

Contains one each 1/4, 5/16, 3/8, 7/16, 1/2, 9/16 and 5/8 inch hex rethreader dies with National Coarse Threads. Conveniently packed in clear plastic box with resilient foam cushion in base.

**D RDF-75 RETHREADER DIE SET FOR FINE THREADS**

Contains one each 1/4, 5/16, 3/8, 7/16, 1/2, 9/16 and 5/8 inch hex rethreader dies with National Fine Threads. Conveniently packaged in clear plastic box with resilient foam cushion in base.

**E RDA-25 ARMATURE DIE SET**

Two piece armature die set for restoring damaged threads on most starters and generators. Hexagon shaped.

**RDW-25 RETHREADER DIE SET**

Set of two hex dies for left-hand wheel studs. One 1/2-20 NF threads and one 9/16-18 NF threads. Every service station and auto shop should have one of these sets.

**F SCREW EXTRACTORS**

For easy removal of broken screws or studs.

Stock No.	Use on Screw Sizes	Use Drill Size	Length
SE-1	Nos. 8 & 10	3/64	2
SE-2	Nos. 12 & 14	7/64	2 1/2
SE-3	3/16	5/32	2 3/4
SE-4	3/8	1/4	3
SE-5	7/16, 1/2, 9/16	17/64	3 3/8
SE-6	5/8	13/32	3 3/4

**G SE-205 SCREW EXTRACTOR SET**

Contains one each sizes 1, 2, 3, 4 and 5. Will remove broken screws 5/16" and smaller.

**SE-206 SCREW EXTRACTOR SET**

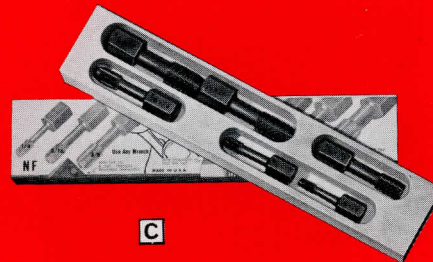
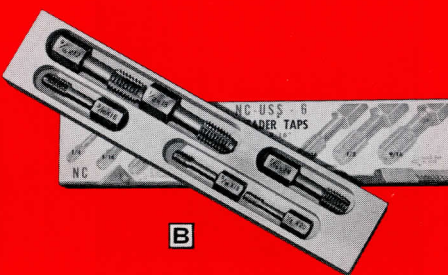
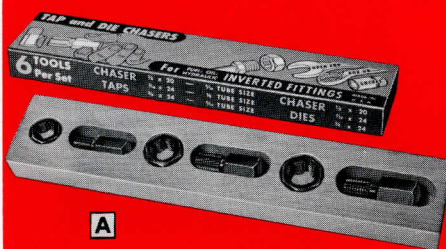
Contains one each sizes 1, 2, 3, 4, 5 and 6. Will remove broken screws 5/8" and smaller.

**H TF-3 BOLT THREAD FILE**

Restores damaged external threads. Any diameter—right or left hand. Includes 11, 12, 13, 14, 16, 18, 20 and 24 threads per inch.

**TF-4 BOLT THREAD FILE**

Like TF-3 above, the extra sharp teeth mean faster, accurate cutting. Includes 9, 10, 12, 16, 20, 27, 28 and 32 threads per inch.

**A RTD-65 6 PIECE TUBE FITTING TAP and DIE CHASER SET**

This kit consists of 3 chaser taps and three chaser dies, 1/2-20, 7/16-24 and 3/8-24. Works on fuel, hydraulic and oil fittings for 5/16", 1/4" and 3/8" tube sizes. Can be used by hand, wrench or socket.

**REPLACEMENTS**

Size	Threads Per Inch	Stock No.	Hex Size
<b>DIES</b>			
3/8	24	RDT-375	9/16
1/2	24	RDT-437	1 1/16
1/2	20	RDT-500	3/4
<b>TAPS</b>			
3/8	24	RTT-375	7/16
1/2	24	RTT-437	1/2
1/2	20	RTT-500	9/16

**B RTC-65 6 PC. RETHREADER TAP SET FOR COARSE THREADS**

No costly tear downs with Vulcan Jaw Rethreader Taps. Needed every day to renew damaged, corroded and rusted threads. This durable, long lasting NC-USS set will pay for itself on just a few jobs. Cannot undercut, makes threads like new. Conveniently packaged in grooved wooden block. Contains one each taps listed in table below.

**NC REPLACEMENT TAPS**

Size	Threads Per Inch	Stock No.	Hex Size
1/4	20	RTC-250	7/16
5/16	18	RTC-312	1/2
3/8	16	RTC-375	9/16
7/16	14	RTC-437	1 1/16
1/2	13	RTC-500	3/4
9/16	12	RTC-562	7/8

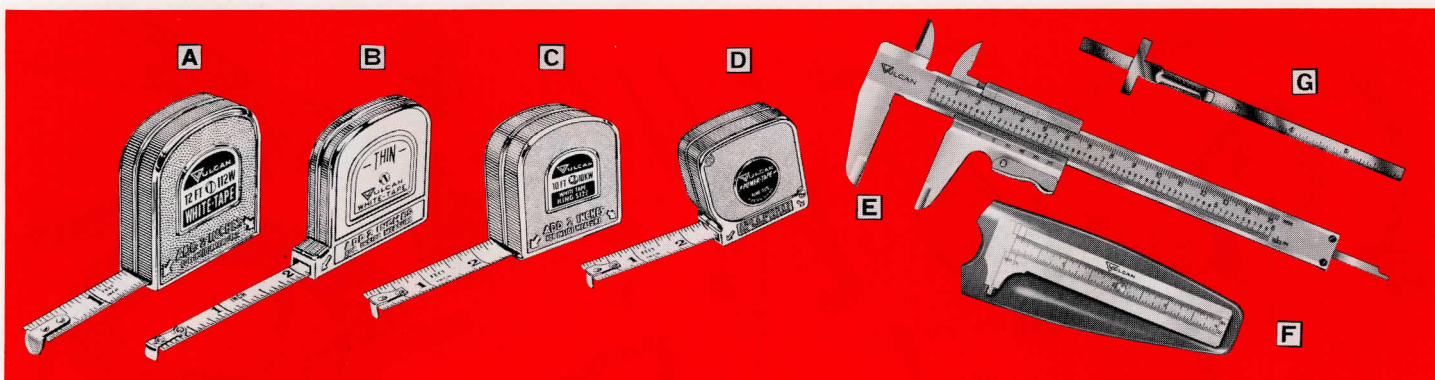
**C RTF-65 6 PC. RETHREADER TAP SET FOR FINE THREADS**

Here is a companion set to the Vulcan Rethreader Die Set. This inexpensive set restores threads in NF-SAE tapped holes. Contains 6 taps, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20 and 9/16-18. Taps have hex head for easy driving, pilot for easy starting. Packaged in handy, grooved wooden block.

**NF REPLACEMENT TAPS**

Size	Threads Per Inch	Stock No.	Hex Size
1/4	28	RTF-250	7/16
5/16	24	RTF-312	1/2
3/8	24	RTF-375	9/16
7/16	20	RTF-437	1 1/16
1/2	20	RTF-500	3/4
9/16	18	RTF-562	7/8





- A** SR-6 6 FOOT PUSH-PULL TAPE  
 SR-8 8 FOOT PUSH-PULL TAPE  
 SR-10 10 FOOT PUSH-PULL TAPE  
 SR-12 12 FOOT PUSH-PULL TAPE

Chrome-plated die cast case with  $\frac{1}{2}$ " tempered steel blade with bonderized white enamel on both sides. "Quick-conversion" foot and markings on blade in jet-black. Takes inside and outside measurements.

- B** SR-6N 6 FOOT THIN TAPE

Tempered  $\frac{1}{4}$ " blade is finished both sides in white with black markings graduated in 8ths and 16ths, 32nds on first 6". Non-moveable end hook.

- C** SR-10W 10 FOOT WIDE TAPE

For difficult upright or horizontal measuring. Accurate  $\frac{3}{4}$ " blade extends easily.

- D** SR-6P 6 FOOT POWER TAPE  
 SR-10P 10 FOOT POWER TAPE

Controlled, power blade-return. Gentle pressure on button retracts blade smoothly.

#### REPLACEMENT BLADES

Stock No.	Length	For Tapes Nos.
SR-6B	6	SR-6 and SP-6P.....
SR-8B	8	SR-8 .....
SR-10B	10	SR-10 and SP-10P.....
SR-10WB	10	SR-10W.....
SR-12B	12	SR-12 .....

- E** CM-206 VERNIER CALIPER

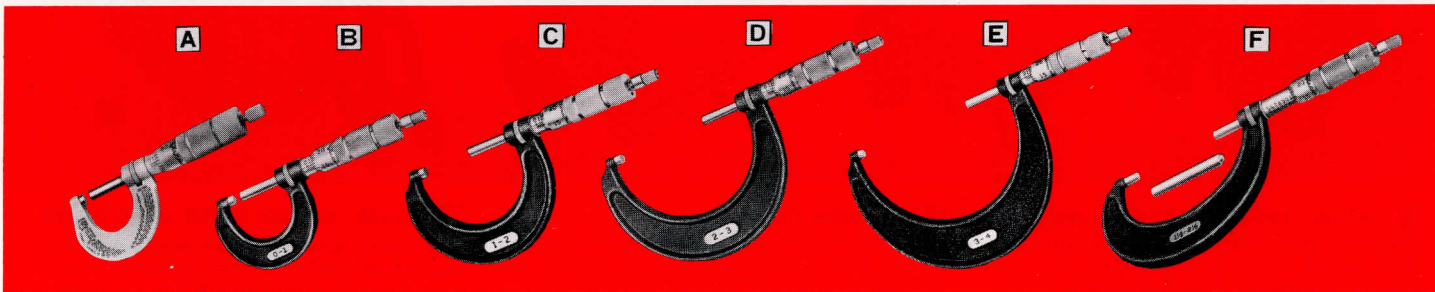
For exact measurements in thousandths of an inch and tenths of a millimeter, (.0039"). Lower scale in inches, top scale in metric. Accurately reads hole depths, outside and inside dimensions. Measuring surfaces are ground, lapped and fully hardened.

- F** CM-205 SLIDE RULE CALIPER

Handy, pocket-size slide rule caliper is made of heavy gauge solid brass for long accurate service. Graduated for both inside and outside dimensions. Plastic pocket case.

- G** SR-1 6 IN. POCKET RULE and GAUGE

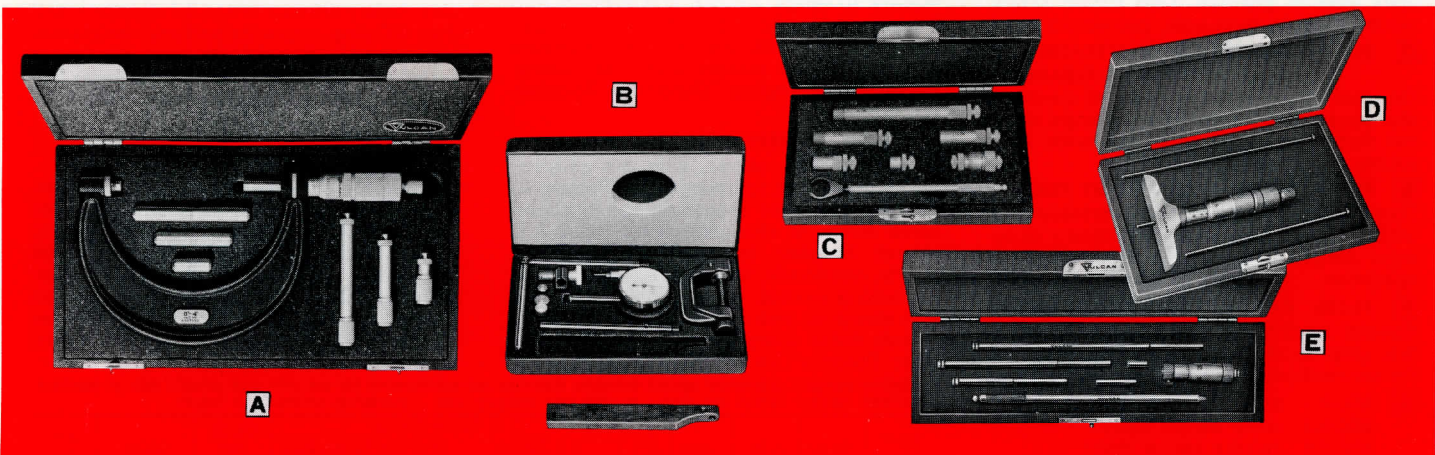
Accurate easy-to-read. Handy pocket clip.



#### PRECISION OUTSIDE MICROMETERS — CONNECTING ROD JOURNAL MICROMETER

The VULCAN line of precision micrometers features drop forged frames of special alloy steel. Lapping of the matched frame and screw assures certified parallelism and squareness. A simple turn of the locking ring securely locks the spindle. A reverse turn frees the spindle to its original velvet smooth action. Anvil and spindle faces are extra hard to resist wear and preserve accuracy. The CM-50L described at "F" is for Connecting Rod Journals. Metric Micrometers are available to your special order.

Stock No.	Code	Capacity	Graduations
CM-11RL	A	0" to 1"	.001"
CM-12RL	B	0" to 1"	.001"
CM-22RL	C	1" to 2"	.001"
CM-32RL	D	2" to 3"	.001"
CM-42RL	E	3" to 4"	.001"
CM-50L	F	1½" to 2½"	.001"



- A** CM-44L 0" TO 4" RANGE MICROMETER

Three interchangeable extensions giving a range from 0" to 4". The changes are made quickly by threading the desired extension on the anvil of the micrometer. Absolutely accurate measurements are assured by use of gauges furnished. Graduations are .001".

- B** CM-200 DIAL INDICATOR SET  
 CM-200L TOOL HOLDER BRACKET

Precision made jewel indicator mechanism for accurate readings. CM-200L is extra.

- C** CM-80A INSIDE MICROMETER SET

Wide range from 1½" to 8". Set includes extension handle complete as illustrated.

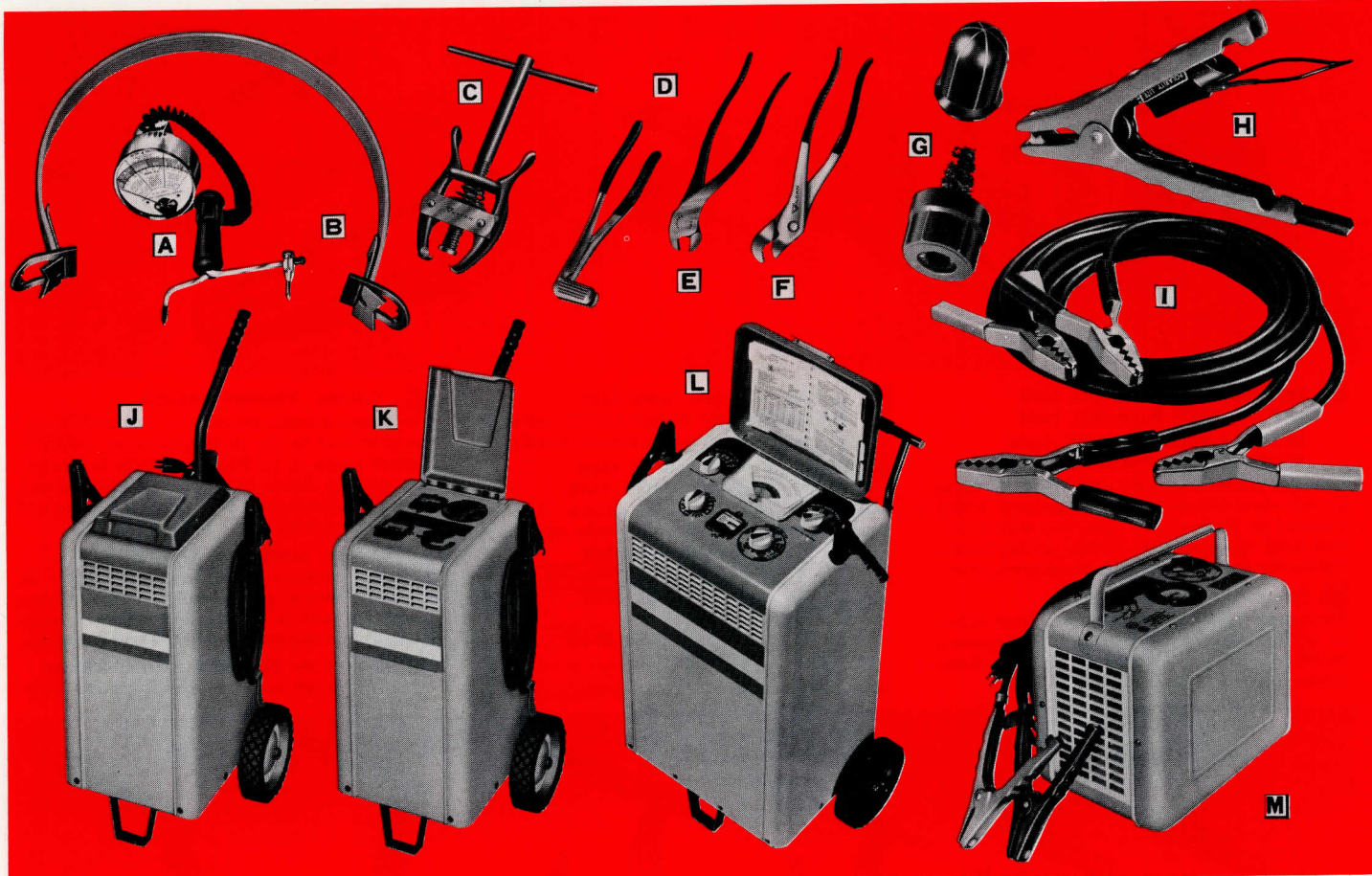
- D** CM-103 DEPTH MICROMETER SET

Graduations are placed right side up for easy reading. Base and rods ground, lapped and hardened. Range 0" to 3", 3 rods.

- E** CM-85 INSIDE MICROMETER SET

Inside measurements from 2" to 8" may be made with this one set. Foam lined case.



**A TU-140 BATTERY CONDITION TESTER**

Performs open circuit, load and regulator tests easily, quickly. Calibrated .01 volt. 5 ft. cord. Rubber grip. Adjustable prods.

**B BC-20 BATTERY CARRIER, 20" Span**  
**BC-12 BATTERY CARRIER, 12" Span**

Non-slip locking device insures safety in removal, replacement, or transportation of batteries. Wide, flat plastic strap is easy on hands and resists battery acid.

**C PU-21 BATTERY CLAMP PULLER**

Attach with two fingers. Spring-loaded jaws stay in position. Fast action screw removes cable terminals, protecting post.

**D BCC-20 BATTERY CLAMP SPREADER**  
**REAMER AND POST CLEANER**

One tool answers the problem of cleaning and spreading the terminal clamps without distortion. Insert spreader jaws, then rotate.

**E PL-137 ANGLE NOSE BATTERY PLIERS**

Formed handles provide comfortable grip while round nose prevents battery damage. Angle jaws allow close-quarter operation.

**F PL-138 PARROT NOSE BATTERY PLIERS**

Special beak-type construction will give firm grip on worn or rounded nuts which the conventional wrenches cannot remove.

**G BTC-2 BATTERY TERMINAL CLEANER****BTC-2-1 MALE BRUSH ONLY**  
**BTC-2-2 FEMALE BRUSH ONLY**

Plastic base and cover. Replaceable brushes.

**H PL-10 POLARITY LITE**

Positive protection against reverse hook-ups and damage to alternators and transistor radios. For 6 & 12 volt systems. Install in seconds to any positive clamp.

**I BOOSTER CABLES**

The quality of Booster Cables depends upon gauge AND STRANDS. Don't be fooled.

Stock No.	Length	Wire Specifications			
		Gauge	Strands	Jacket	Diam.
BC-1	8'	#6	133	Rubber	.380"
BC-3	12'	#6	133	Rubber	.380"

**J R-60 BATTERY CHARGER**

Charges either 6 or 12 volt batteries. When fast charge is completed, unit automatically flips over to a slow rate of approximately 10 amps. on a 6 volt battery and 3 amps. on a 12 volt battery. Protective metal lid prevents dust, dirt and moisture from damaging meters and instruments. Exclusive non-aging "Duratron" Rectifier. Polarity Lite.

**K R-100 BATTERY CHARGER**

Similar to R-60, above, with the addition of the fool-proof, tamper-proof, "Record-A-Charg" meter for recording the accumulated hours of charging time. Twin A-C circuit breaker for protection against shorts, overloads, fan failure, obstructions to cooling system. Electric timer totals all fast charging and automatically flips over to safe finish charging rate. Duratron Rectifier. Polarity Lite is standard equipment.

All battery chargers guaranteed against defective materials and workmanship for one year from owner's date of purchase. DURATRON rectifier carries two year — or 1000 hour charging time — guarantee, whichever is longer.

Stock No.	Height	Width	Depth	Net Wgt.	D. C. Output Ratings						6 & 12 Volt Chg. Rts.	Cables	A.C. Cord
					U. L. Ratings			Half Chg. Battery Rtg.					
					Volts	Amps.	Watts	Volts	Amps.	Watts			
RT-100	30"	21"	14"	87	7.4	95	703	6.5	110	715	6 Fast	9' #4 ga.	15'
					14.8	65	962	13.5	70	945	6 Slow		1050 Strand
R-100	29"	15"	14"	60	7.4	100	740	6.5	110	715	4 Fast	9' #4 ga.	15'
					14.8	60	888	13.5	70	845	4 Slow		1050 Strand
R-60	29"	15"	14"	46	7.5	50	375	6.7	60	402	1 Fast	8' #6 ga.	15'
					14.2	30	426	13.0	40	520	1 Slow		
F-60	11"	11½"	14"	32	7.5	50	375	6.7	60	402	1 Fast	8' #6 ga.	15'
					14.2	30	426	13.0	40	520	1 Slow		

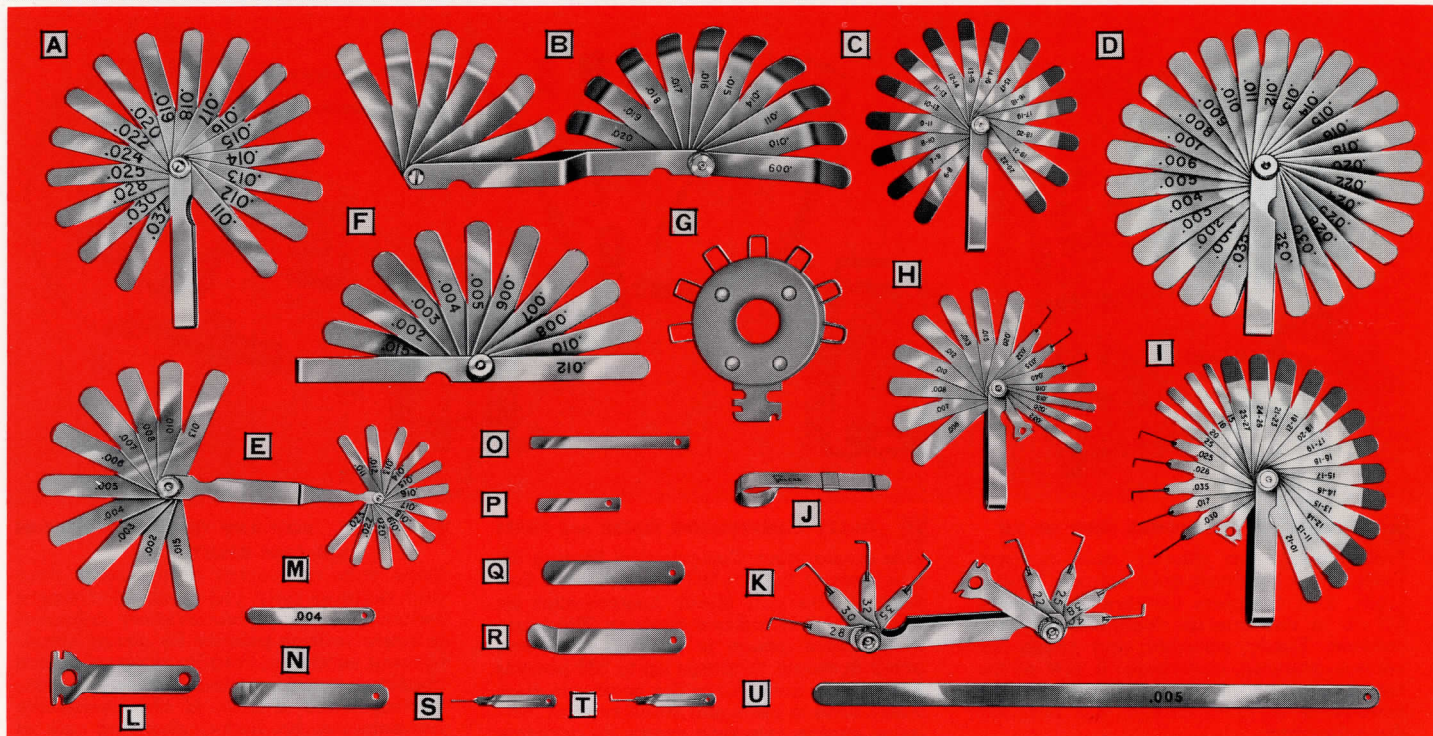
**L RT-100 BATTERY TESTER and CHARGER**

The finest, most versatile test and charge equipment for 6, 8, 12 volt batteries. Allows you to read exact condition of battery. Light load test cell for "low" batteries. Heavy load test for covered, plastic top batteries. Reads discharge load in volts and amps. "Record-A-Charg" timer totals all fast charging and automatically changes to a safe finish charging rate. Twin AC circuit breaker thermal over-load switch safeguards against shorts, fan failure, overloads, obstructions to cooling system. Safety clamps are solid copper, rated over 400 amp. capacity and are completely insulated. Inside cable storage gives extra years of life. Duratron rectifier. Polarity Lite (PL-10) furnished. Large 7" wheels.

**M F-60 BATTERY CHARGER**

Completely portable, weighing only 32 lbs. Top quality charger in an "economy" price range. Cable hangers on one side only to protect clothing and insure easy one hand portability. Has every desired feature: Automatic Rate Selector, Twin AC Circuit Breaker, Automatic Shutoff, Solid Copper Clamps, Non-Aging "Duratron" Rectifier, UL approval, uses little space.



**A FG-116 MASTER IGNITION GAUGE**

Sixteen blades at "P" as follows: FB-111, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 24, 25, 28, 30 and 32.

**B FG-616 UNIVERSAL O. V. H. GAUGE**

Sixteen blades at "R" as follows: FB-609, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26 and 27.

**C FG-515 GO, NO-GO GAUGE**

Fifteen go, no-go blades at "Q" as follows: 6 & 8 (FB-507), 7 & 9, 8 & 10, 9 & 11, 10 & 12, 11 & 13, 12 & 14, 13 & 15, 14 & 16, 15 & 17, 16 & 18, 17 & 19, 18 & 20, 19 & 21, and 20 & 22.

**D FG-225 UNIVERSAL MASTER GAUGE**

Twenty-five blades at "N" as follows: FB-201½, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 20, 22, 24, 25, 28, 30, 32 and 35.

**E FG-322 COMBINATION GAUGE**

Ten blades at "M" as follows: FB-302, 3, 4, 5, 6, 7, 8, 10, 13 and 15. Twelve blades at "P" as follows: FB-111, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22 and 25.

**F FG-210 STANDARD FEELER GAUGE**

Ten blades at "N" as follows: FB-202, 3, 4, 5, 6, 7, 8, 10, 12 and 15.

**G FGR-1 SPARK PLUG GAUGE AND BENDER**

Seven wire sizes as follows: .020, .025, .028, .030, .032, .035 and .040. Bender sizes as follows: .055, .065, .110 and .140.

**H FG-816 CHEVROLET GAUGE**

Eight blades at "N" as follows: FB-206, 7, 8, 10, 12, 13, 15 and 20. Four blades at "O" as follows: FB-716, 18, 20 and 22. Three blades at "T" as follows: FB-832, 35 and 40. One FB-400 electrode bender at "L".

**I FG-723 FORD GAUGE**

Thirteen go, no-go blades at "Q" as follows: 10 & 12 (FB-511), 11 & 13, 12 & 14, 13 & 15, 14 & 16, 15 & 17, 16 & 18, 17 & 19, 18 & 20, 19 & 21, 21 & 23, 24 & 26 and 25 & 27. Four blades at "O" as follows: FB-715, 16, 20 and 25. Three blades at "T" as follows: FB-825, 28 and 35. Two blades at "S" as follows: FB-917 and 30. One FB-400 electrode bender at "L".

**J FGH-1 FEELER BLADE HOLDER**

Thin feeler blade stock coils within the handle, holding blade securely. Slide clamp releases to advance stock. Length, 4½".

**K FG-409 SPARK PLUG WIRE GAUGE**

Eight wire blades at "T" as follows: FB-422, 25, 28, 30, 32, 35, 38 and 40. One FB-400 electrode bender at "L".

**L FB-400 ELECTRODE BENDER**

Notched to accurately set spark plug electrodes. Used in FG-816, FG-723 and FG-409.

**M 3" x 1/2" THIN BLADES for FG-322**

No.	Thick.	No.	Thick.	No.	Thick.
FB-302	.002	FB-306	.006	FB-313	.013
FB-303	.003	FB-307	.007	FB-315	.015
FB-304	.004	FB-308	.008		
FB-305	.005	FB-310	.010		

**N 3-5/16" x 1/2" STANDARD BLADES**

No.	Thick.	No.	Thick.	No.	Thick.
FB-201½	.0015	FB-215	.015	FB-229	.029
FB-202	.002	FB-216	.016	FB-230	.030
FB-203	.003	FB-217	.017	FB-231	.031
FB-204	.004	FB-218	.018	FB-232	.032
FB-205	.005	FB-219	.019	FB-233	.033
FB-206	.006	FB-220	.020	FB-234	.034
FB-207	.007	FB-221	.021	FB-235	.035
FB-208	.008	FB-222	.022	FB-236	.036
FB-209	.009	FB-223	.023	FB-237	.037
FB-210	.010	FB-224	.024	FB-238	.038
FB-211	.011	FB-225	.025	FB-239	.039
FB-212	.012	FB-226	.026	FB-240	.040
FB-213	.013	FB-227	.027		
FB-214	.014	FB-228	.028		

**O 3-5/16" x 1/4" IGNITION BLADES**

No.	Thick.	No.	Thick.	No.	Thick.
FB-715	.015	FB-718	.018	FB-722	.022
FB-716	.016	FB-720	.020	FB-725	.025

**P 1-3/4" x 1/4" IGNITION BLADES**

No.	Thick.	No.	Thick.	No.	Thick.
FB-111	.011	FB-117	.017	FB-125	.025
FB-112	.012	FB-118	.018	FB-128	.028
FB-113	.013	FB-119	.019	FB-130	.030
FB-114	.014	FB-120	.020	FB-132	.032
FB-115	.015	FB-122	.022	FB-135	.035
FB-116	.016	FB-124	.024		

**Q 3-5/16" x 1/2" STEP-GROUND BLADES**

These blades used in FG-515 and FG-723.

No.	Thick.	No.	Thick.	No.	Thick.
FB-507	.006-.008	FB-513	.012-.014	FB-519	.018-.020
FB-508	.007-.009	FB-514	.013-.015	FB-520	.019-.021
FB-509	.008-.010	FB-515	.014-.016	FB-521	.020-.022
FB-510	.009-.011	FB-516	.015-.017	FB-522	.021-.023
FB-511	.010-.012	FB-517	.016-.018	FB-525	.024-.026
FB-512	.011-.013	FB-518	.017-.019	FB-526	.025-.027

**R 3-5/16" x 1/2" 45° OFFSET BLADES**

For overhead valves. Used in FG-616.

No.	Thick.	No.	Thick.	No.	Thick.
FB-609	.009	FB-617	.017	FB-624	.024
FB-610	.010	FB-618	.018	FB-625	.025
FB-611	.011	FB-619	.019	FB-626	.026
FB-614	.014	FB-620	.020	FB-627	.027
FB-615	.015	FB-621	.021		
FB-616	.016	FB-623	.023		

**S STRAIGHT WIRE BLADES FOR FG-723**

Spark plug wire gauges. Used in FG-723.

No.	Thick.	No.	Thick.	No.	Thick.
FB-917	.017	FB-930	.030		

**T 90° OFFSET WIRE BLADES**

FB-400 series blades are used in FG-409. FB-800 series blades for FG-723 & FG-816.

No.	Thick.	No.	Thick.	No.	Thick.
FB-422	.022	FB-435	.035	FB-825	.025
FB-425	.025	FB-438	.038	FB-828	.028
FB-428	.028	FB-440	.040	FB-832	.032
FB-430	.030			FB-835	.035
FB-432	.032			FB-840	.040

**U 12" x 1/2" EXTRA LONG FEELER BLADES**

12 inch long feeler stock. Use with FGH-1.

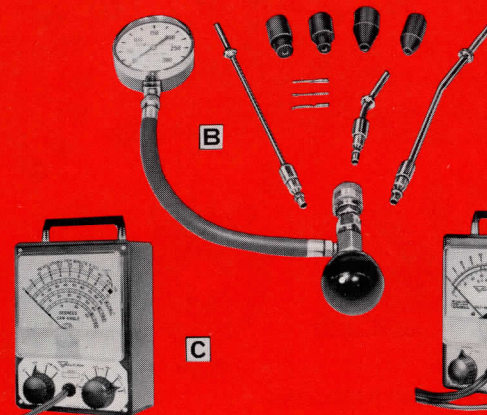
No.	Thick.	No.	Thick.	No.	Thick.
FB-1201½	.0015	FB-1213	.013	FB-1225	.025
FB-1202	.002	FB-1214	.014	FB-1226	.026
FB-1203	.003	FB-1215	.015	FB-1227	.027
FB-1204	.004	FB-1216	.016	FB-1228	.028
FB-1205	.005	FB-1217	.017	FB-1229	.029
FB-1206	.006	FB-1218	.018	FB-1230	.030
FB-1207	.007	FB-1219	.019	FB-1231	.031
FB-1208	.008	FB-1220	.020	FB-1232	.032
FB-1209	.009	FB-1221	.021	FB-1233	.033
FB-1210	.010	FB-1222	.022	FB-1234	.034
FB-1211	.011	FB-1223	.023	FB-1235	.035
FB-1212	.012	FB-1224	.024		



**A TU-5035 PROFESSIONAL TUNE UP KIT**

Professional, top quality multi-purpose Testers, the brightest dual-voltage Timing Light, and complete Compression Tester Kit all in one custom designed carrying cabinet. Easily portable and ready for service anytime, anywhere. A few of the many tests which can be made are described at B, C, D and E. Set includes the following:

Qty.	Stock No.	Description
1	TU-121	Power Timing Light.....
1	TU-301	Volt-Amp Tester.....
1	TU-320	Cam-Angle Tachometer.....
1	TU-171	Compression Tester.....
1	TU-172	Stem, Ford, 5½".....
1	TU-173	Stem, Chevrolet, 9½".....
1	TU-174	Stem, Chrysler, 9½".....
3	TU-175	Valve Cores.....
1	TU-178S	Cone, short taper.....
1	TU-178L	Cone, long taper.....
1	TU-179-14	Cone, 14 mm.....
1	TU-179-18	Cone, 18 mm.....
1	MB-14	Metal Cabinet.....

**B TU-171 COMPRESSION TESTER and PARTS**

This outstanding Compression Testing Kit is a part of the TU-503 Compression Set. With it you can check compression on virtually all of today's engines. The large 3" pressure gauge is easy to read and gives accurate readings up to 300 pounds per square inch. All of the seamless steel stems have a precision small bore to minimize engine cranking cycles for accurate test. Valve core included with each stem. Positive seal cones are moulded neoprene.

**C TU-320 CAM-ANGLE TACHOMETER**

Guaranteed 98% accuracy on all tachometer ranges and cam angle (or dwell) readings on 4, 6, or 8 cylinder engines. Equipped with automatic voltage selector for either 6 or 12 volt hook-ups. No switching required. Exceptionally accurate idle adjustments are made because of the 1000 and 5000 RPM scales. The large 4½ inch dial is protected from oil and grease by a clear plastic cover. The mercury battery gives a minimum life of two years.

**D TU-301 VOLT-AMP TESTER with BUILT-IN 1/4 OHM RESISTOR**

Tests volts and amps at the same time and requires only one hook-up. Ampere switch position is immediately adjacent to every voltage position for nearly simultaneous readings. Polarity reversal switch changes needle swing without disconnecting wires. Built-in ¼ ohm resistance compensates for higher charging rate of old batteries and permits setting the regulator at 10 amp charging rate without installing new battery. Big, clear 4½" dial calibrated in 1/10 volt and 1 amp units. Clear plastic cover is oil and gas resistant. Three volt ranges: 0-10, 0-20, and 0-50. Amp range 7-0-80. Use TU-240-1 Replacement Battery.

**E TU-121 POWER TIMING LIGHT**  
**TU-121B REPLACEMENT FLASH TUBE**

All new 6 and 12-volt Power Timing Light with 35% more brilliance. Super-sensitive foolproof trigger shuts off light when released. Tests engines up to 2500 RPM. Full description on page 63.

**A TU-5025 STARLINE SET COMPLETE**

A very versatile and complete set of Tune-up Testers superbly engineered for fast, accurate, trouble-free testing and service. The set consists of one each of the items listed below.

Code	Stock No.	Description
B	TU-121	Power Timing Light.....
C-1	TU-200	D. C. Ammeter.....
C-2	TU-220	D. C. Voltmeter.....
C-3	TU-240	Cam-Angle Tester.....
C-4	TU-260	Primary Tachometer.....
C-5	TU-280	Ignition Tester.....
A	MB-15	Mobile Folding Cart.....
A	MB-16	Metal Fitted Tray.....

**B TU-121 POWER TIMING LIGHT**

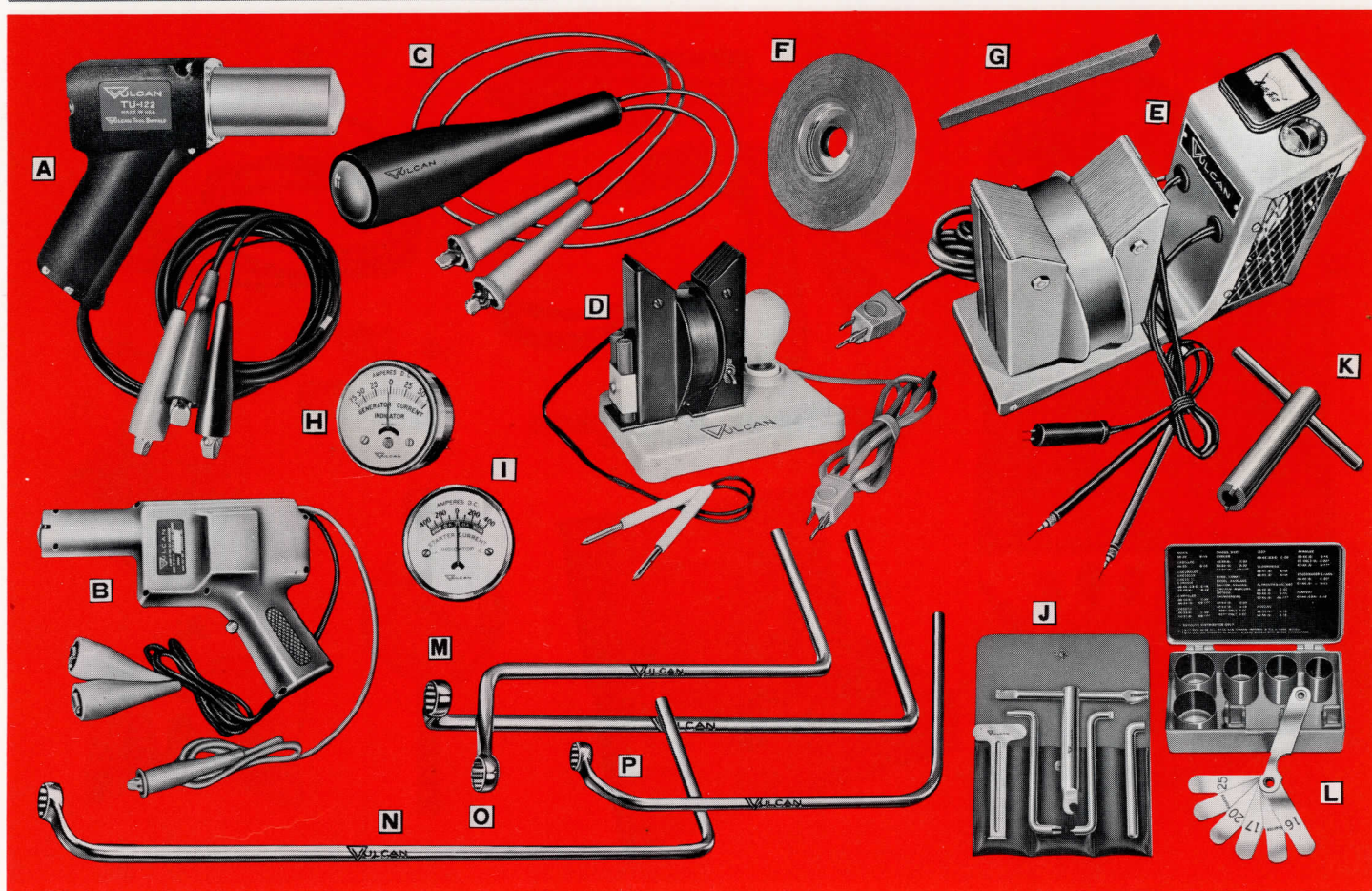
Complete description is given on page 63.

**C VULCAN STARLINE TESTERS**

STARLINE Testers are attractively styled, highly finished instruments. Large copyrighted TELADOT dials provide greater visibility and the red tipped knife edge pointers form a clear contrast with the sharp black on white meter calibrations. Meters are jewelled movement, permanent magnet, moving coil with maximum error guaranteed not to exceed 2% of full scale reading at any point on the scale.

**TU-240-1 REPLACEMENT BATTERY FOR TU-240, TU-260 and TU-301**  
**TU-280-1 REPLACEMENT FUSE, TU-280**





**A TU-122 6 & 12 V. POWER TIMING LIGHT  
TU-122B REPLACEMENT FLASH TUBE**

The VULCAN TU-122 Timing Light is NEW and DIFFERENT. This electronic triumph draws its power from an AC wave in the primary circuit and thereby eliminates the necessity for a vibrator or relay switch. The elimination of these two units serves a double purpose. First, it enables practically trouble-free operation since the vibrator and relay are two of the major causes of failure in other timing lights. Second, it automatically reduces the overall size, thereby resulting in the most compact Heavy Duty Timing Light on the market. It is small enough to operate efficiently in the limited space allowed by the modern complex engines. Leads and flash tube guaranteed one year from purchase. All other parts guaranteed 3 years.

**B TU-121 POWER TIMING LIGHT  
TU-121B REPLACEMENT FLASH TUBE**

A dual voltage Timing Light for 6 and 12 volt systems with the brightest flash of any light on the market. Allows precise, scientific distributor setting to fire plugs at the most efficient point of the compression stroke. Will also work on magneto ignitions. There is no exposed metal, thereby eliminating shock hazard. Voltage selector automatically adjusts to 6 or 12 volt systems. Long, 54" heavy duty oil and gas resistant leads.

**C TU-120 TIMING LIGHT  
TU-120B FLASH TUBE ONLY**

Molded, one-piece neoprene case cushions neon tube against damage. Special convex lens gives excellent focus. Test 6, 12, or 24-volt systems. Ample reach insured by 52" leads. Easy replacement of tube.

**D TU-100 GROWLER & ARMATURE TESTER**

For checking short and open circuits and grounds in armature windings. Will also develop sufficient magnetic flux to test automotive starter and generator armatures. The on-off switch is heavy-duty and the wire is equipped with a 3 pronged plug to comply with the latest U.L. regulations. Two individual coils with isolated windings to eliminate hazard.

**E TU-101 GROWLER & ARMATURE TESTER**

A quality tool in every design and construction detail to make armature tests faster, easier and better. Use for 115V. single phase, 50/60 cycles AC. The superior VULCAN features include double winding to provide 2 different flux densities, without resistors; large, easy to read meter dial; special "bar-to-bar" 2-pronged test prod; 4-position switch.

**F CR-180 1" COMMUTATOR PAPER**

A flint mineral that does not conduct electricity. 50 yards, 1" wide, fine grit.

**G TU-7 REGULAR COMMUTATOR STONE  
TU-8 NARROW COMMUTATOR STONE**

Genuine "Thorostone" for starter motors and generators. Commutator stones reduce brush wear, eliminate arcing, remove commutator ridges and seat new brushes.

**H TU-160 GENERATOR CURRENT INDICATOR**

Simple induction method eliminates time consuming connections. Lay over current. Carrying wire, read charging rate, 0-75A.

**I TU-150 STARTER CURRENT INDICATOR**

Checks starter draw within five seconds! No connections, lay upon battery-starter cable and turn over engine. 0-400 A scale registers immediately. Chart is included.

**J TU-50K VOLTAGE REGULATOR AND DISTRIBUTOR TOOLS in K-33 Kit**

Five tools for distributors and voltage regulators. Service tested tools designed by expert tune-up mechanics.

Code	Stock No.	Description
1	TU-1	Ford distributor vacuum spring.....
2	TU-2	Voltage regulator, most types.....
3	TU-3	Autolite, Delco ignition points.....
4	TU-4	Ford V-8 point clamp screws.....
5	TU-5	Ford voltage regulators .....

**K TU-20 CHEVROLET DISTRIBUTOR TOOL**

Pronged socket designed for Chevrolet distributors. Quick, easy adjustment.

**L TU-53 SNAP-GAP IGNITION GAUGE SET**

Micro-precision rings slip over distributor cam forming perfect circle for fast, accurate point setting.

**M TU-716 1/2" 12-PT. DISTRIBUTOR WR. CHRYSLER-DODGE-DESO**

For Chrysler products. Box end is set 90° from 5" long handle. Length, 12".

**N TU-618 9/16" 12-PT. DISTRIBUTOR WR. PONTIAC-OLDSMOBILE**

Length of 16" provides ample reach. Off-set allows clearance at fire wall.

**O TU-818 9/16" 12-PT. DISTRIBUTOR WR. BUICK-CHEVROLET**

Head of box wrench is tapered for close clearance on Buick. 4 1/2" offset, 10" long.

**P TU-916 1/2" 12-PT. DISTRIBUTOR WR. FORD-LINCOLN-MERCURY**

Offset clears coil and distributor leads. Makes adjustments fast. Length, 11 3/4".





**A TU-6 REMOTE CONTROL STARTER SWITCH**

The precision switch assembly has silver to silver contacts. The heavy duty cord is 5 feet long to allow operating the engine from either side or underneath the car. Here is a tool to make all one man tests routine and easy. Made of the finest quality materials and craftsmanship for greatest use and satisfaction. To be used for cycling engine on compression tests and starter load tests. Also, for all electrical and mechanical tests.

**B TU-15 IGNITION-PAK STARTER SWITCH**

The VULCAN Ignition Pak is a double purpose Remote Control Starter Switch designed for simple cranking, or actual operation without a key. This is a precision engineered, dual switch hook-up equipped with automatic re-set circuit breaker which eliminates damage to the instrument. Silver inlaid contacts are used for extra heavy duty applications, and the unit is designed for 6, 12, 24 and 32 volt ignition systems. Gives you complete engine control for all testing.

**C TU-6A REMOTE CONTROL STARTER SWITCH**

All of the quality features that have been designed and built into this Remote Control Starter Switch make it the finest, most trouble free switch on the market today. A real time saver and practical tool with extra heavy duty construction for testing and servicing all electrical systems up to and including 24 volts. Silver inlaid contact points have exceptionally long life and reduce arcing. The 5' leads are finest quality for long life.

**D TU-169S COMPRESSION TESTING SET IN MB-13 METAL BOX**

The outstanding set for one-man testing of today's engines! Large, easy-to-read dial has 10" flexible neoprene extension with comfort grip, plastic knob. Quick-Coupler feature enables rapid interchange of three stems designed to fit all modern engines. Special rubber bushings expand in plug hole, insuring accurate readings. Securely packaged in compact, metal case.

Stock No.	Description
TU-171	Comp. Tester, Quick Coupling .....
TU-172	Stem, Ford, 5½" .....
TU-173	Stem, Chevrolet, 9½" .....
TU-174	Stem, Chrysler, 9½" .....
TU-178S	Small Cone .....
TU-178L	Large Cone .....
TU-179-14	14 m/m Cone .....
TU-179-18	18 m/m Cone .....
MB-13	Metal Box .....

**E TU-50 ADAPTOR, ⅛" PIPE THREAD**

For adapting TU-180 Vacuum Gauge to carburetors and fuel pumps. ⅛" pipe thd.

**F TU-51 ADAPTOR, ½"-20 THREAD**

For adapting TU-180 Vacuum Gauge to carburetor and fuel pumps. ½"-20 thread.

**G TU-52 ADAPTOR, 3 WAY, ⅛" PIPE THR.**

3 way adaptor having two female and one male ⅛" pipe thread. For "tap-in" on intake manifold. Use with TU-180 Vacuum Gauge.

**H TU-180 AIR HOLDS FOR OHV JOBS**

Change valve springs, install valve seats and valve spring inserts in ½ the time. For 14 and 18 mm spark plug holes.

**I TU-500S BASIC TUNE-UP KIT IN MB-12 METAL BOX**

Contains everything needed for diagnosis and correction of basic tune-up problems. Compact Neon Timing Light in unbreakable neoprene case, operates on all vehicles regardless of voltage. Vacuum-Pressure Gauge checks fuel system and carburetors. Compression Gauge has large, 300 lb. dial with flex tubing for close-quarter work. Packed in space-saver case of heavy metal.

Stock No.	Description
TU-120	Timing Light, Series Type .....
TU-180	Vacuum and Fuel Pump Tester .....
TU-177	Comp. Tester, Stem and Cone complete .....
MB-12	Metal Box .....

**J TU-180 VACUUM-FUEL PUMP GAUGE**

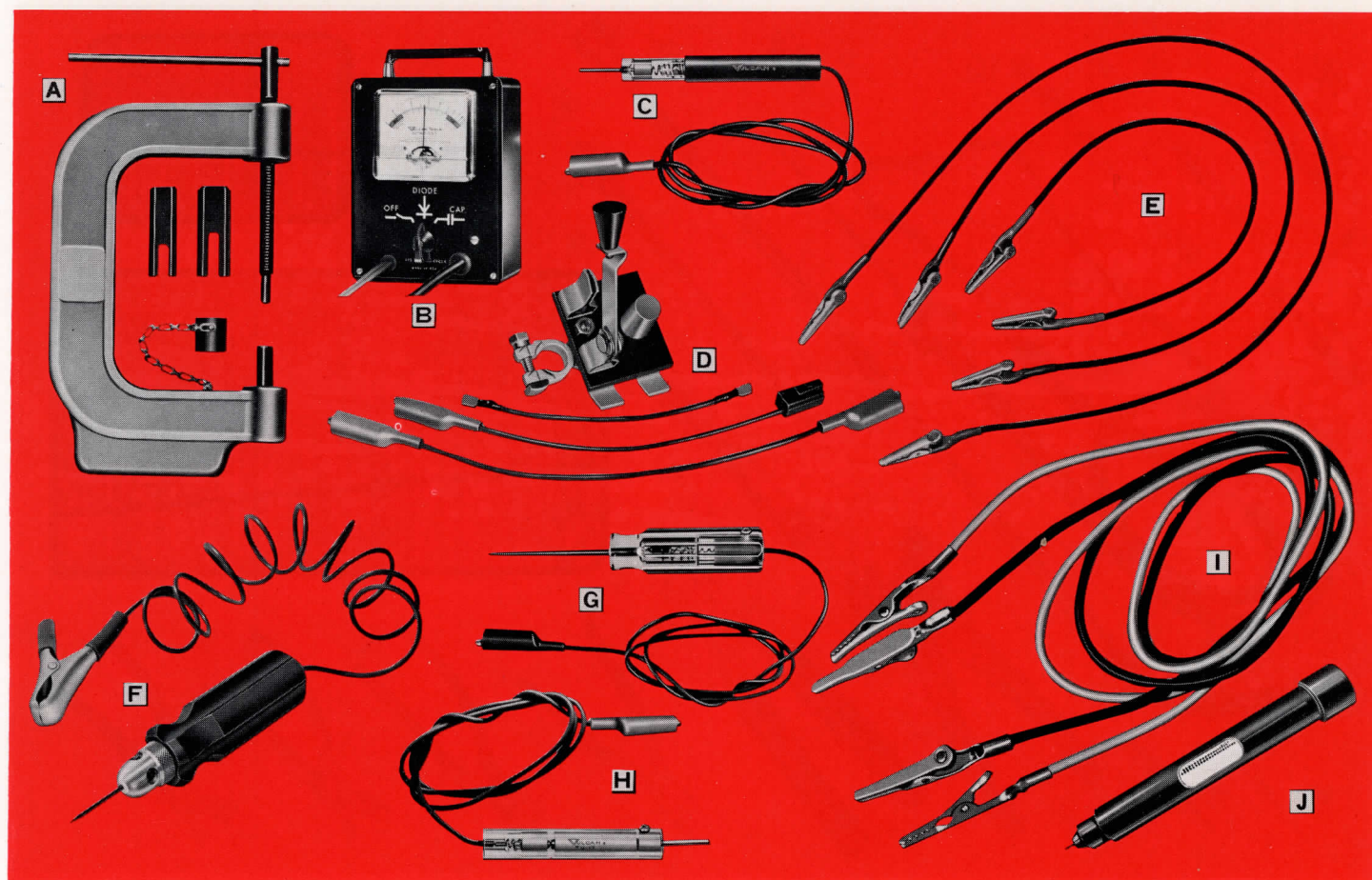
Three-color dial face indicates probable causes of difficulty at various readings. Enlarged capacity of 30 inches vacuum and 10 lbs. pressure, accommodates all models. Complete with 4 ft. hose and metal adaptor.

**K TU-176 CONE AND VALVE KIT FOR COMPRESSION TESTER**

Four sizes of long wearing moulded neoprene cones to fit all spark plug ports. Special valve cores are for compression testers. Do not use std. tire valve cores.

Item	Stock No.	Description
1	TU-179-14	14 m.m. Cone .....
2	TU-179-18	18 m.m. Cone .....
3	TU-178S	Small Cone, Short Taper .....
4	TU-178L	Large Cone, Long Taper .....
5	TU-175	Valve Cores (3 pieces) .....





**A GP-12 ALTERNATOR DIODE REMOVER AND INSTALLING TOOL**

This self contained tool safely eliminates the need for using an arbor press or hammer for replacing one or a set of diodes. Keeps the diode accurately in alignment as it is pressed into the housing or heat sink. This is essential for trouble free service, since a loose or misaligned diode usually will overheat and fail transfer contact. This tool will work on alternators having diodes pressed in such as Delcotron, Motorola, Neville, Leece, Chrysler, and Presto-Lite.

Stock No.	Description
GP-12-3	Removing Adaptor.....
GP-12-4	Installing Adaptor.....
GP-12-7	Support Adaptor.....

**B TU-400 DIODE & CONDENSER TESTER**

An essential instrument for use on late model cars having alternators. This tool is the one sure answer for locating defective diodes on or off the vehicle. It will even identify whether a diode is positive or negative. In addition, this tool will test condensers, and locate opens and shorts. The hook-up is simple because there are only two leads to connect. Therefore, the alternator can be checked almost instantly.

**C TU-14 DIODE TESTER**

**TU-14-3 REPLACEMENT BULB ONLY**

**TU-14-5 REPLACEMENT BATTERY ONLY**

Batteried Diode Tester for alternators and transistor radios. Makes accurate continuity tests. Light glows when current passes from positive to negative.

**D TU-190 SWITCHING POST ADAPTOR KIT TU-190-2 FIELD JUMPER ONLY**

For Delcotron and Ford Products with molded connector at regulator.

**TU-190-3 FIELD JUMPER ONLY**

For Chrysler. Also, Motorola & Delcotron with harness wires to regulator.

**TU-190-4 FIELD JUMPER ONLY**

For Leece-Neville 6000 Series.

The TU-190 takes the guess work out of electrical circuit testing. It permits quick and easy checking of all electrical circuits right at the battery. Attach the switch to the battery terminal and hookup the ammeter and voltmeter leads. The unit will work with all automotive voltmeters and ammeters. With any good automotive ammeter and voltmeter you can test alternator output accurately and differentiate between alternator and regulator troubles. The unit comes complete with three special alternator-generator field jumpers. Complete instructions furnished.

**E TU-10 3 PIECE TEST LEAD SET**

Get the "jump" on service time and costs with this handy set of leads. Makes possible "jumping" any part of the electrical system fast and easy. Save costly time wasted in trying to find hidden trouble. Three leads, lengths of 12, 18 & 24 inches.

**F TU-12 LOW VOLTAGE TESTER**

**TU-12-1 REPLACEMENT NEEDLE**

**TU-12-3 REPLACEMENT BULB, 12 V.**

Use for checking shorts and breaks in wiring, wire connectors, radio circuits, antenna, fuses, bulbs, dead battery cells, switches, etc. Slim, sharp needle does not damage insulation.

**G TU-16 SPARK PLUG TESTER AND SHORTER**

**TU-16-3 REPLACEMENT BULB ONLY**

A very practical tool and miniature motor analyzer. Made of the finest quality materials and fully guaranteed, this tool will ground out plugs and run checks on plugs, condensers and points. Lights up for visual voltage.

**H TU-17 BATTERY POWERED CIRCUIT TESTER**

**TU-17-3 REPLACEMENT BULB ONLY**

**TU-17-5 REPLACEMENT BATTERY ONLY**

The TU-17 is a self-powered electrical Circuit Testing Unit that is used and acclaimed by automotive and truck mechanics, as well as electricians and electronic repair men. It will test condensers, coils, armatures, distributors, voltage regulators, switches, circuit breakers and junction blocks. Also invaluable for radio and TV service and repair. In addition, it will check grounds, shorts, open circuits and timing. This is a quality tool that was designed to save you time and make your job easier.

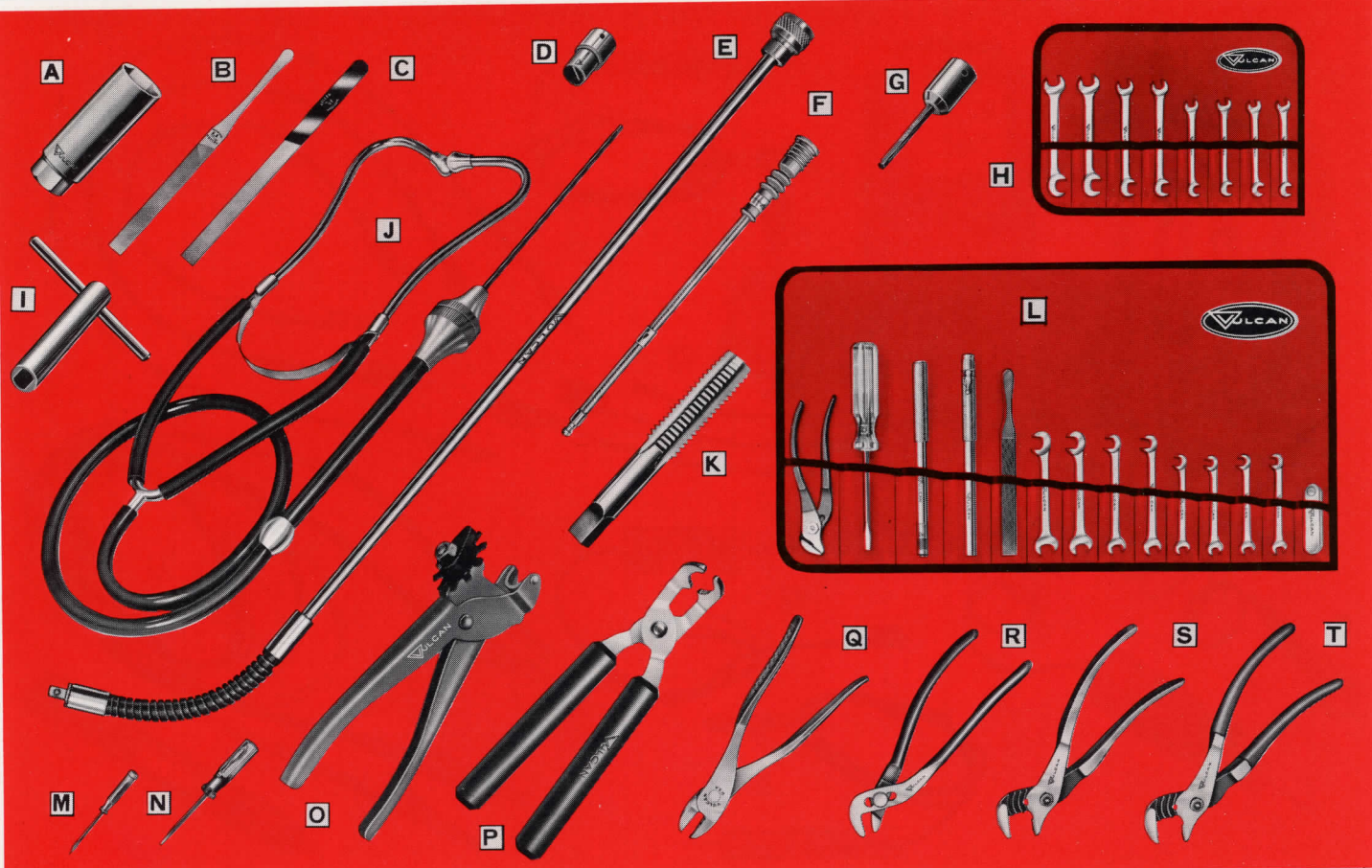
**I TU-19 TWIN TEST LEAD SET**

A set of two test leads that are color coded for easy identification. Each end is securely fitted with strong alligator clips which give a firm grip for good electrical connections. Each test lead is a full 30" long.

**J TU-11 SPARK PLUG & CABLE TESTER**

Fully insulated against shock and completely shatterproof. Simply press the nose against the spark plug wire. The concealed needle in the retractable nose makes contact and flashes the light.



**A BD-626R 13/16" SPARK PLUG SOCKET**

Designed especially for spark plugs. Hex opening, 3/8" sq. dr., soft rubber lining.

**B F-5P TUNGSTEN POINT FILE**

Chisel tip for easy entry into gaps and slots. For cleaning spark plugs, distributor points, switches, etc.

**C F-5VR VOLTAGE REGULATOR FILE**

Thickness only 1/4" for cleaning voltage regulators, circuit breakers, relays, etc.

**D MSD-1 SCREW DRIVER ADAPTOR, 1/4" DR.**

Blade is recessed in socket wall providing a self centering feature for carburetor work. Length, 1 1/2".

**E MFD-1 FLEXIBLE DRIVER, 1/4" DRIVE**

Clears such obstruction as air cleaners, etc., when working on dual and four barrel carburetors. Knurled drive knob is shaft connected to 3 1/2" flexible end. Lgth. 21".

**F TU-9 SPARK PLUG JACK**

Now you can have a quality spark plug jack a full 7 inches long to really bring the spark out where it can be used. A flexible high-tension tool.

**G MHB-4 HEX ADAPTOR, 1/4" DRIVE**

1/8" Hex shaft extends 2" beyond socket.

**H LI-8K 8 IGNITION WRS. in K-84 Kit**

LI-8 8 IGNITION WRS. without Kit

Stock No.	Description		Stock No.	Description	
	15° End	75° End		15° End	75° End
1101	13/64	15/64	1103	9/32	5/16
1101A	15/64	13/64	1103A	5/16	9/32
1102	1/32	1/4	1104	11/32	3/8
1102A	1/4	7/32	1104A	3/8	1 1/32

**I TU-21 CARBURETOR JET WRENCH**

Especially for Ford V-8 carburetor adjustments. 2" socket length, 2" handle.

**TU-22 CARBURETOR JET WRENCH**

For all cars using Stromberg Carburetors. 2" socket length, 2" handle.

**J TU-13 STETHOSCOPE****TU-13-11 LONG PROBE ONLY, 12" long**

An amplifying sound diaphragm located in the sound chamber magnifies the sound of trouble and helps you pin point the exact location of faulty valve tappets, worn or damaged bearings, body squeaks and other trouble spots. Metal eared tips are used for longer trouble-free service. Shaft is shock proof plastic. Furnished with 6" probe.

**K TC-14M METRIC TAP FOR SPARK PLUG HOLES**

High quality 14 millimeter Tap for cutting new threads and cleaning out damaged threads for 14 mm spark plugs.

**L LI-14K 14 IGNITION TOOLS in K-142 Kit****LI-14 14 IGNITION TOOLS without Kit**

Fourteen essential tools for anyone doing minor adjustments or complete ignition work. Wrenches are offset 15° on one end and 75° on the other. Each tool has been especially selected for its usefulness.

Stock No.	Description	Stock No.	Description
1101	Wr. 13/64" x 15/64"	1104A	Wr. 3/8" x 1 1/32"
1101A	Wr. 15/64" x 13/64"	PL-105	Plier, 5"
1102	Wr. 7/32" x 1/4"	SDE-3	Screwdriver
1102A	Wr. 1/4" x 7/32"	FG-116	Feeler Gauge
1103	Wr. 9/32" x 5/16"	PTM-6	Magnet
1103A	Wr. 5/16" x 9/32"	F-5P	Point File
1104	Wr. 1 1/32" x 3/8"	SS-50	Screw Starter

**M SDI-1 INSTRUMENT SCREWDRIVER**

Small, handy screwdriver for working on instruments. Blade is 3/32" round, 1 1/2" long.

**N SDI-2 INSTRUMENT SCREWDRIVER**

Amber colored pyrolin handle with handy pocket clip. 1/8" round blade, 2" long.

**O PG-1 SPARK PLUG GAPPING TOOL****PG-1-1 GAUGE PLATE REPLACEMENT**

Yoke and throat sizes are designed for maximum utility. Keeps electrode in proper alignment. Works on steel shoulder of plug — does not squeeze porcelain.

**P PL-400 INSULATED HOT WIRE PULLERS**

Especially designed and constructed to speed up your testing and tune-up work. Heavy handle insulation provides safety from shock when removing spark plug and other live electrical wires. Jaws designed for minimum damage to wire insulation.

**Q PL-94 4 1/2" MIDGET IGNITION PLIERS**

Excellent pliers for intricate bench work, and adjustments on the vehicle. Also, all radio and TV repairmen find these pliers well designed for their requirements.

**R PL-95 5" IGNITION PLIERS**

Slip joint pliers with 3 separate adjustments. Parallel jaw action is possible through a broad size range.

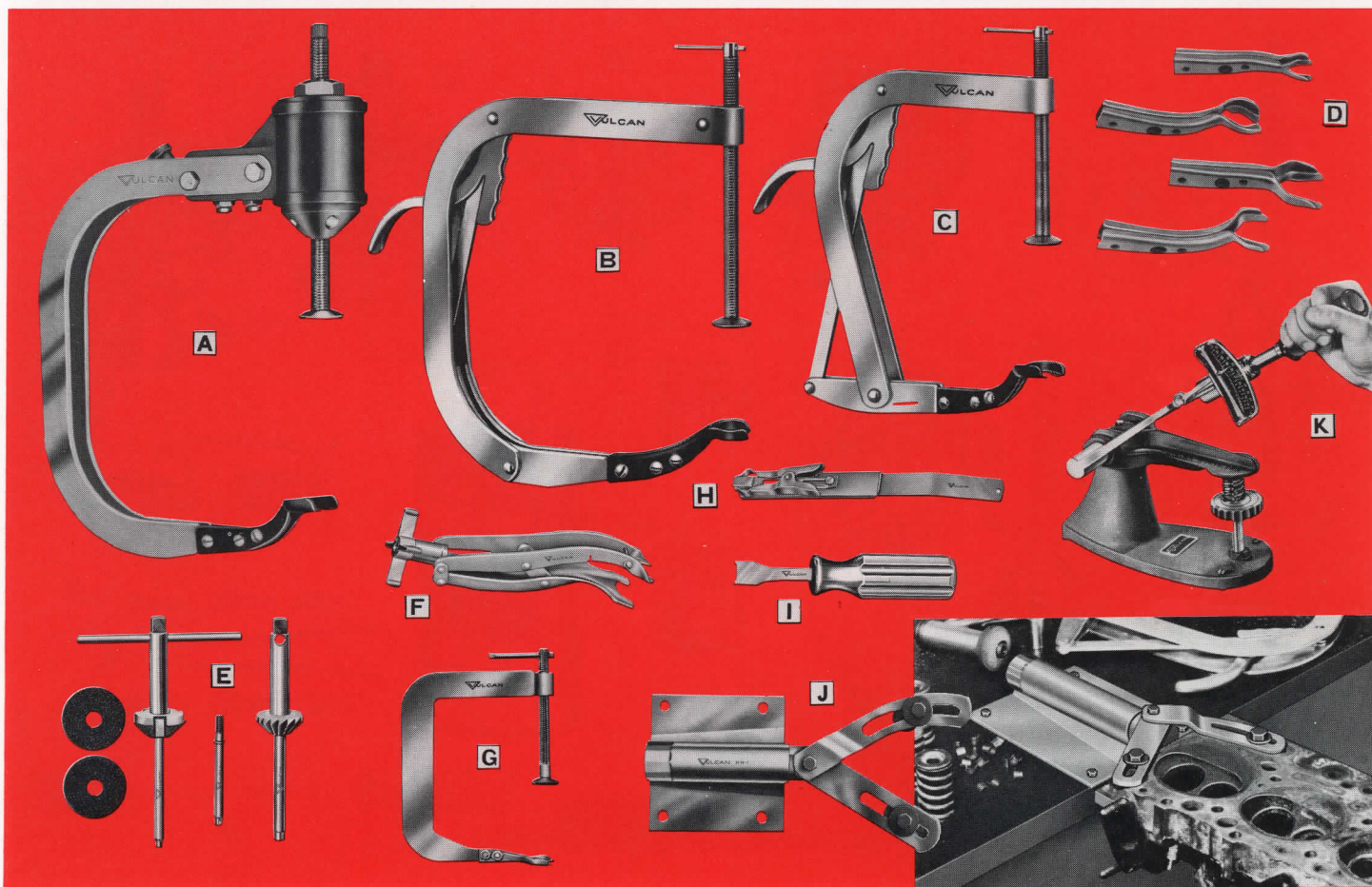
**S PL-105 5" GROOVE-LOCK IGNITION PLIERS WITHOUT PLASTISOL HDLS.**

Finest quality gripping pliers with four adjustments giving parallel jaw action.

**T PL-105P 5" GROOVE-LOCK IGNITION PLIERS WITH PLASTISOL HDLS.**

The same excellent plier as PL-105 described above with the added feature of comfort molded plastic grips.





**A VL-5 C-CLAMP VALVE LIFTER  
AIR OPERATED**

The simplest, fastest "C" clamp unit giving absolutely parallel lift. Operates on air line pressure of 90 to 150 pounds, and develops a power of 3 times the line pressure. Two finger manipulation of the control valves produces anything from a slow, minute movement to a full fraction-of-a-second travel. Furnished with 45° street-L and VL-2-1, VL-2-2 and VL-2-3 jaws.

**B VL-2 C-CLAMP VALVE LIFTER**

A universal valve lifter for most automobiles, small bus, truck and tractor work. When used with extra jaws it does regular L-head and overhead valve work with springs up to 2 3/4" diameter. Clearances 10 1/4" high and 9 1/2" wide. Equipped with VL-2-1 straight jaw, VL-2-2 medium offset jaw and VL-2-3 large straight jaw. Lifter has simple, safe one-hand release. Handles split locks when used with VT-1 Split Lock Replacer.

**C VL-3 C-CLAMP VALVE LIFTER**

For easy one-man valve work on the new high compression truck engines with V-8 block and overhead valving. No need to remove exhaust manifold for clearance. Compresses the new extra stiff springs without undue effort or dangerous flexing of the frame. Pin operated fine-adjusting screw gives fast, easy control of spring compression. Furnished with VL-2-2 jaws.

**D EXTRA JAWS FOR VL-2, VL-3, VL-5**

Stock No.	Description
VL-2-1	Straight Jaws. 7/8" to 1 7/8" capacity.....
VL-2-2	Medium offset for O.H.V. 1" to 2" cap. .
VL-2-3	Large straight Jaws. 1 1/2" to 2 3/4" cap. .
VL-2-5	High offset Jaws. 1" to 2" cap. ....

**E VR-15 VALVE RESEATER SET  
VR-1-1C COURSE ABRASIVE, 1-1/4"-45°  
VR-1-1F FINE ABRASIVE, 1-1/4"-45°**

A very practical and inexpensive way to reseat both the intake and exhaust valve seats on low horsepower engines having 45° valve seats 5/8" to 1 1/4" diameters used on power lawn mowers, pumps, generators, garden tractors, etc. Set consists of a 1 1/4"-45° Abrasive Cutter with coarse abrasive for hard exhaust seats, one dozen Abrasives (6 coarse, 6 fine), a 1 3/8"-45° Solid Type Cutter used on intake cast iron seats, one each 1/4", 5/32" and 3/16" Pilots, one handle.

**F VL-1 STUBBY VALVE LIFTER**

For safe, sure, fast spring compression on all L-head, in-line engines using straight stem valves. Adjustable for spring diam. Newly engineered action for faster, easier compression while keeping the end of the spring level at all times. No danger of slipping. Recommended for use with VT-1 Split Lock Replacer.

**G VL-4 SMALL ENGINE VALVE LIFTER**

For air or water cooled 4-cycle engines with spring diameters up to 1 1/8". Height, 5 1/8". Width, 3 3/8". Provides plenty of clearance for removal and replacement of valve locks on all small engines. Screw with spinner crank is double pitch for fast action. Works perfectly with VT-1 Split Lock Replacer for replacing Briggs & Stratton and similar tapered split locks. Furnished with VL-4-3A and VL-4-4 jaws.

Stock No.	Description
VL-4-3A	Small straight Jaws. 5/16" to 1 3/16" cap. ....
VL-4-4	Standard str. Jaws. 3/4" to 1 1/8" cap. ....

**H VT-1 SPLIT LOCK REPLACER**

For holding and placing on valve shaft any type of tapered split lock used in automotive engines. It positions the lock without hunting and keeps them in place while the spring is lowered. A real time and finger saver, even with the smallest, tightest blocks. Has two independent slides, one for holding the locks apart until the moment of contact with the valve stem, the other to keep the locks from sliding out of the jaws before the spring is released.

**I TA-1 TAPPET ADJUSTER**

For quick adjustment of overhead tappets on Chevrolet, Buick and others. Notched to prevent slipping. Plastic handle. Lgth. 5 1/2".

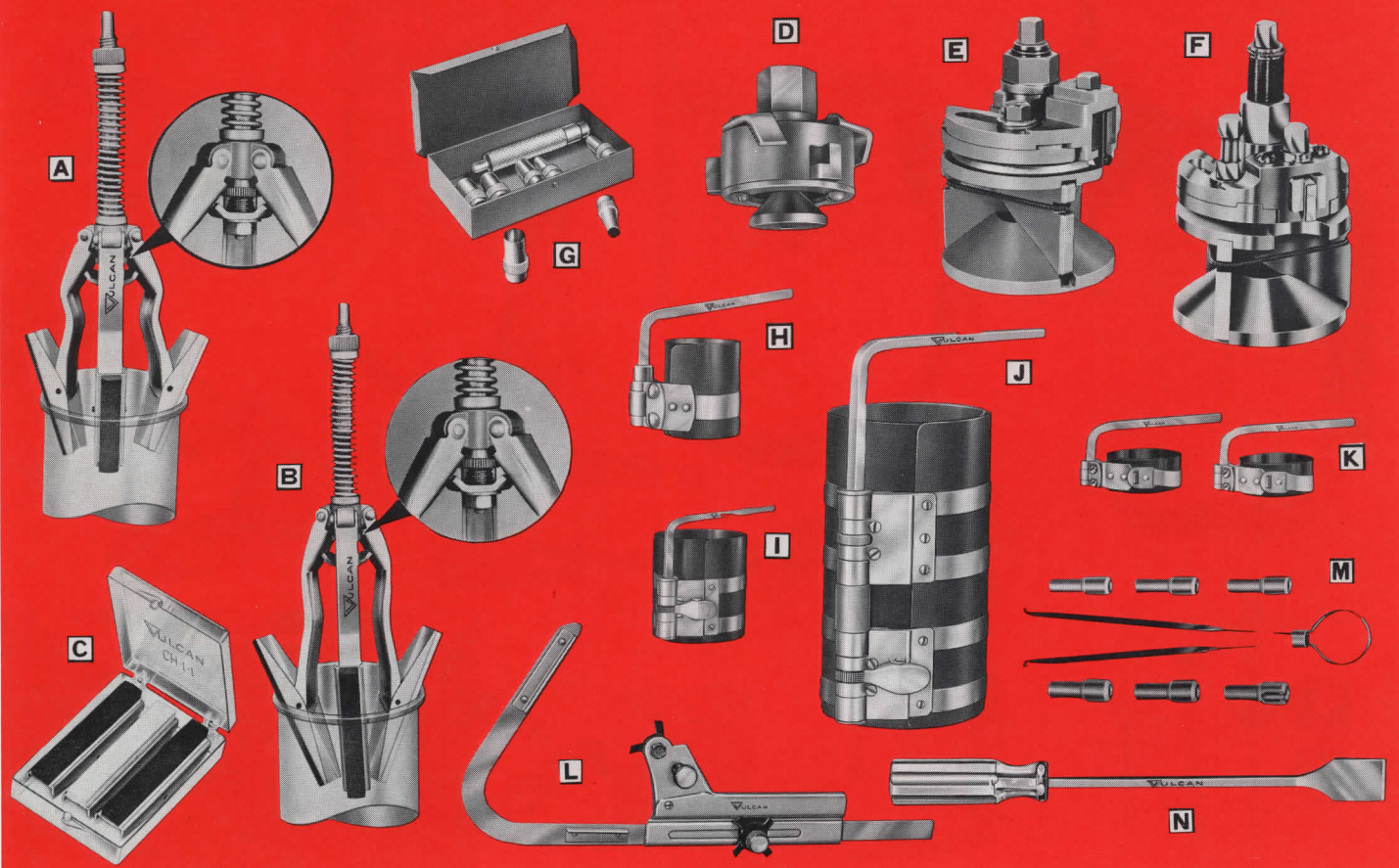
**J HH-1 12 POSITION HEAD HOLDER**

Here's a handy bench accessory that takes a minimum amount of space, holds virtually any V-8, passenger, compact, foreign, truck, or air cooled engine head securely. Quickly changes to any one of twelve positions for easy, obstruction free head and valve work. Allows you to keep your bench clean and free from the bulky cylinder head. Prevents scuffing and marking your bench and the head. Holding arm quickly slips from the bench holder when not in use. Ask your VULCAN Dealer to show you this time saver.

**K SPT-1 VALVE SPRING TESTER**

Permits fast, accurate matching and checking of new and old valve clutch springs, etc. A tone device sounds the instant spring is compressed to the desired pre-set length. Threaded column with vernier scale permits adjustment of test platform to exact test length within .003 of an inch. Operated by an accurate torque wrench. Capacity, 400 pounds.



**A CH-1 ADJUSTABLE GLAZE BREAKER**

Has special diameter-adjusting nut and spring tension for positive cutting action at all speeds. Fast cylinder to cylinder change. Equipped with two fast-cutting abrasive stones with felt oiler pad on third arm to give smooth glaze breaker action. Services 2" to 5 1/4" diameter cylinders.

**B CH-2 LARGE CAPACITY ADJUSTABLE GLAZE BREAKER**

Extremely versatile hone for 2" to 7" dia. cylinders covering automotive, truck, bus, tractor, industrial engines and small air cooled motors. Adjustable to infinite diameters throughout its entire range. Flexible shaft, controlled spring action, spread control limiter. Equipped with two 4" medium grit stones and one felt polishing wiper.

**C REPLACEMENT STONE SETS**

Quality stones and wiper. Pins are included.

**CH-1-1 EXTRA STONE SET FOR CH-1**

Two med. grit stones, 1 felt wiper. 3" long.

**CH-1-2 EXTRA STONE SET FOR CH-1**

Two fine grit stones, 1 felt wiper. 3" long.

**CH-2-1 EXTRA STONE SET FOR CH-2**

Two med. grit stones, 1 felt wiper. 4" long.

**CH-2-2 EXTRA STONE SET FOR CH-2**

Two fine grit stones, 1 felt wiper. 4" long.

**D RR-1 SMALL BORE CYLINDER RIDGE REAMER  
RR-1-B SET OF 3 BLADES**

Will remove the unworn ridge in cylinders with diameters from 2" to 3". Three cutting blades, each piloted to prevent overcutting, accurately and quickly remove the unworn ridge, leaving no step or shoulder in the cylinder wall. This is a well made, easy-operating tool at reasonable cost.

**E RR-2 UNIVERSAL RIDGE REAMER  
RR-2B CARBIDE CUTTER ONLY**

Positions from cylinder wall. Gets all the ridge with one setting, no moving parts over pits, deformities or out of round cylinders. Floating tungsten-carbide cutter stays sharp indefinitely. Range, 3" to 5" dia. cylinders. Three simple operations.  
1. Lock the reamer inside cylinder.  
2. Feed cutter to cylinder wall.  
3. Turn out the ridge.

**F RR-3 LATHE ACTION RIDGE REAMER  
RR-3B CARBIDE CUTTER ONLY**

Positions from the cylinder wall and works perfectly on all cylinders including angle block, short stroke and conventional. Fine thread center feed screw leads the carbide cutter smoothly and accurately over ridge for perfect removal every time.

**G GP-1 GASKET or HOLLOW PUNCH SET**  
Seven sizes from 1/4 to 5/8 inch inclusive, in sturdy metal case. This set will stand unlimited use when a wooden block or Babbet is used under material when punching holes in gaskets. A real time saver.

**H RC-2 MIDGET RING COMPRESSOR**

For foreign cars and small gasoline engines. Single tension band surrounds 2 inch spring steel compression band. Adjustable friction brake. Capacity 1 1/2 to 3 inches.

**I MASTER PISTON RING COMPRESSORS**

**RC-3** Capacity 2 1/8 to 5 inches

**RC-4** Capacity 3 1/2 to 7 inches

Both have 3 1/2 inch high compression bands that take all rings at one time. Use for Chevrolet and Ford with tapered blocks. Compressors are used upside down on these cars. Self locking ratchet pawl. Friction brake.

**J RC-5 TRUCK-TRACTOR-DIESEL RING COMPRESSOR**

Giant 6 1/2" high compressor with four tension bands. Takes up to 7" diameter diesel, truck and tractor pistons. Handles jobs where the gap from top ring to skirt ring is more than 3 1/2". Handles large jobs to perfection. High grade spring steel bands. Capacity 3 1/2" to 7".

**K RC-15 PISTON RING COMP. SET**

2 Ring Compressors for outboard and other motors where the cylinder block is over the pistons. 1 1/8" high compression band covers all rings. Capacity 1 1/8" to 3 1/2".

**L RGC-1 RING GROOVE CLEANER**

Removes carbon from ring grooves from smallest up to 6". Cutter wheel includes 3/32", 1/8", 5/32" and 3/16" blades. Does not chatter, gouge, catch in oil holes or jump out of grooves. Compensating spring controls pressure on cutter. Rigid frame prevents side play of cutter.

**RGC-1-1 CUTTER WHEEL ONLY**

Includes 3/32", 1/8", 5/32" and 3/16" blades.

**RGC-1-2 CUTTER WHEEL ONLY**

Includes 5/64", 3/32", 5/32" and 3/16" blades.

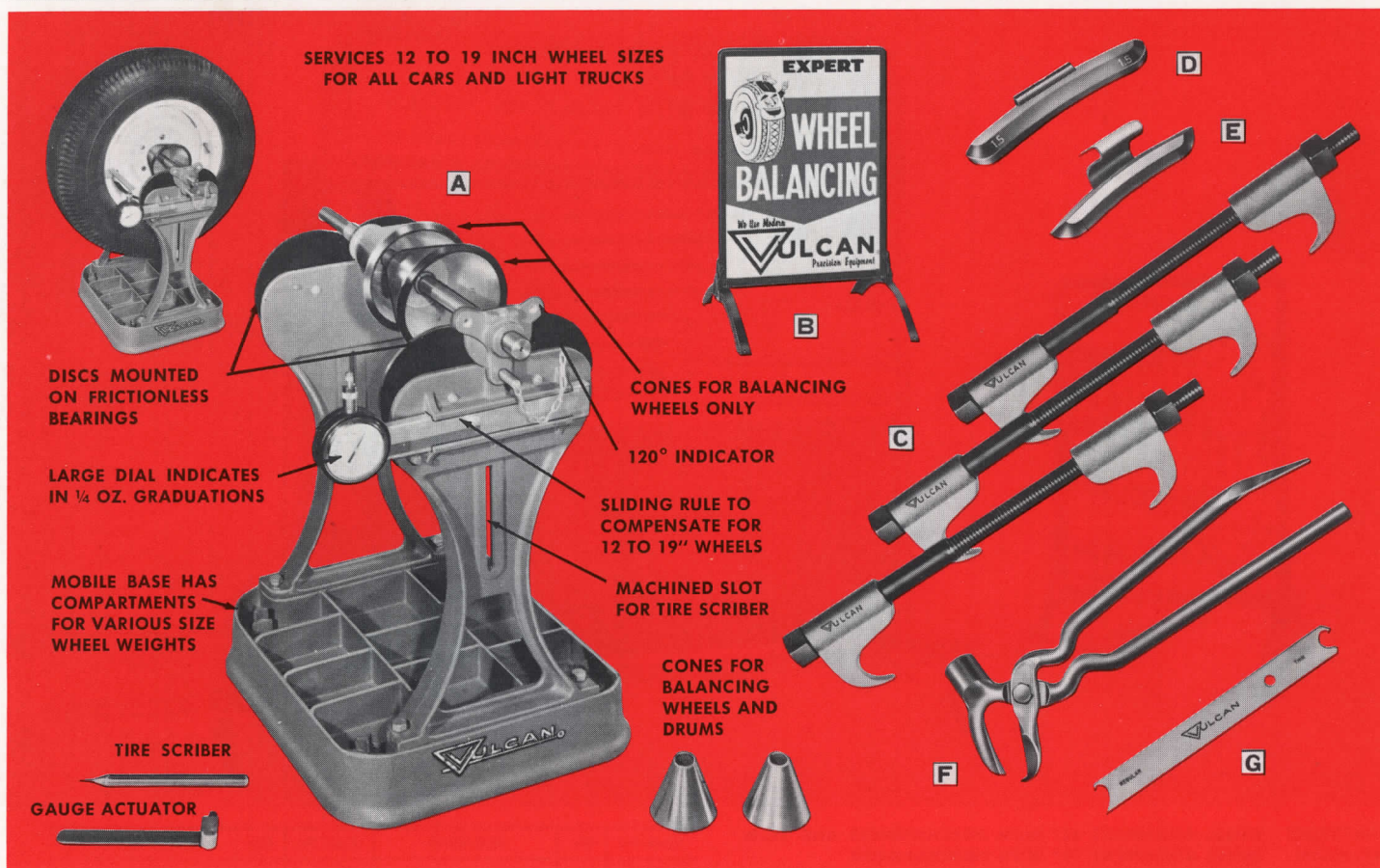
**M GA-1 ALIGNMENT DOWEL SET**

For fast, accurate placement of head gaskets and cylinder heads. Three dowels placed in the block give added protection to the gasket and 3-point alignment for block-gasket assembly. Retriever removes dowels without unscrewing. Contains retriever, three 3/16", three 1/2" bolt size dowels.

**N CS-8 CARBON SCRAPER**

Has 1" wide scraping edge. Polished blade anchored in fluted plastic handle. 12" long.



**A WB-10 WHEEL BALANCER**

- **PRECISION 3-POINT BALANCING**
- **FRICTIONLESS BEARING MOUNTINGS**
- **DIAL GAUGE GRADUATED IN 1/4 OUNCE INCREMENTS**
- **TELLS YOU EXACT WEIGHT REQUIREMENTS ON FIRST READING**
- **SERVICES 12 TO 19 INCH WHEEL SIZES FOR ALL CARS AND LIGHT TRUCKS**
- **NO SPECIAL TOOLS REQUIRED**
- **BALANCES WHEELS WITH BRAKE DRUMS**
- **PORTABLE UNIT REQUIRING NO LEVELING**
- **FULL OPERATING INSTRUCTIONS INCLUDED**

**BALANCE MORE WHEELS  
IN LESS TIME  
AND MAKE MORE MONEY**

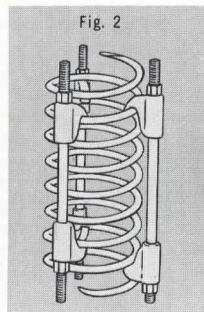
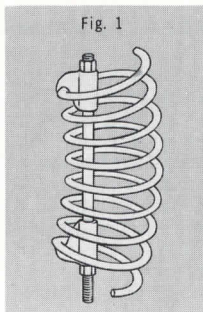
The VULCAN Wheel Balancer is a precision instrument designed to give you extremely accurate readings time after time. The operational steps have been reduced to an absolute minimum. Roll the balancer anywhere on a reasonably smooth floor and you are ready to begin. This machine does not require leveling. This is a versatile balancer that allows you to balance wheels with or without brake drums. This optional feature permits quick and easy balancing of rear wheels or spare. The Vulcan Wheel Balancer eliminates any danger from spinning wheels . . . eliminates guess work . . . eliminates the possibility of transmission damage. Elimination of all trial and error weight selection and weight location allows you to do more work in shorter time with less fatigue. Make more satisfied customers and money for yourself.

**B WB-11-1 DRIVEWAY SIGN ONLY  
WA-60-2 METAL RAMP STAND ONLY  
WA-61-2 METAL WALL BRACKET ONLY**

All metal sign to add colorful advertising to your garage or service station. Tells your regular customers that you now do a professional job of wheel balancing. Helps bring in new customers too. Use sign with WA-60-2 Ramp Stand or WA-61-2 Wall Bracket.

**C CSC-15 SET OF 3 COIL SPRING COMPRESSION TOOLS  
CSC-1 SINGLE COIL SPRING COMPRESSION TOOL**

A set of 3 new and improved Coil Spring Compressors for removing and installing all front end coil springs. Approved by a nationally known Testing Laboratory for safety, efficiency and speedy performance. Made of finest quality materials giving a tensile strength of more than two tons, providing a triple safety factor. Fig. 1 shows the proper way to use a single compressor to create the necessary shape for curved springs, particularly Chevrolet. Fig. 2 illustrates placement of 3 compressors for all other front and rear coil springs.

**D REGULAR STYLE WHEEL WEIGHTS****E SPECIAL WHEEL WEIGHTS FOR EXTENDED FLAT FLANGE RIMS**

Broad selection of quality Wheel Weights to add greater profits to your business. Accurately cast and formed to fit wheel rim. Toe clamp takes a positive bite and resists flying off the rim.

\*Some manufacturers of Wheel Balancers specify weight to be used as A, B and C. The corresponding weight in ounces is so designated in the table below.

Oz. Wgt.	* Sym- bol	D Regular Wheel Weights		E Extended Flat Flange Wheel Weights	
		Std. Pkg.	Stock No.	Std. Pkg.	Stock No.
1/4	A	50	WW-8025		
1/2		50	WW-8050	25	WW-9050
3/4		50	WW-8075		
1	B	50	WW-8100	25	WW-9100
1 1/2		50	WW-8150	25	WW-9150
2		50	WW-8200	25	WW-9200
2 1/4	C	50	WW-8225		
2 1/2		50	WW-8250	25	WW-9250
3		50	WW-8300	25	WW-9300
3 1/2		50	WW-8350		
4		50	WW-8400		
4 1/2		25	WW-8450		
5		25	WW-8500		
5 1/2		25	WW-8550		
6		25	WW-8600		

**F WWP-1 WHEEL WEIGHT PLIERS**

Forged from alloy steel and fully hardened for long life. Angled jaws for close work. Positive grip, balanced hammer.

**G WWR-1 WHEEL WEIGHT REMOVER**

An inexpensive and very useful tool for quickly removing wheel weights. One end for standard weights, other for thin style.



**COMPLETELY PORTABLE  
WITH ALL THE ACCURACY FOUND  
IN PERMANENT INSTALLATIONS**

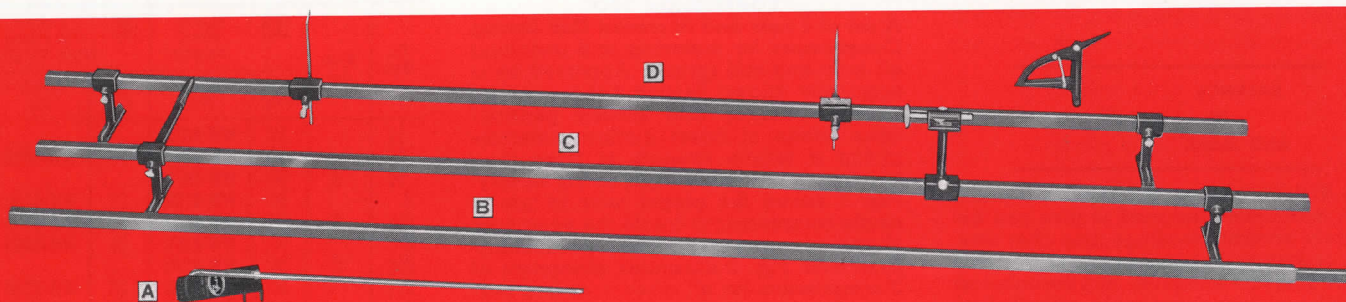


**WA-59  
MERCHANDISER**

WA-1033MS	WHEEL ALIGNMENT SET WITH MERCHANDISER AND SIGN
WA-1033M	WHEEL ALIGNMENT SET WITH MERCHANDISER
WA-1033	WHEEL ALIGNMENT SET TOOLS ONLY
WA-59	MERCHANDISER ONLY
WA-60	SIGN AND STAND
WA-61	SIGN AND BRACKET
WA-60-1	SIGN ONLY
WA-60-2	STAND ONLY
WA-61-2	BRACKET ONLY

No need to tie up valuable floor space. This is the perfect set for Service Stations, Body Shops and Independent Garages. Also, large garages have found this set an invaluable addition for quick checks and adjustments when permanently installed equipment is tied up. VULCAN Wheel Alignment Equipment is simple and accurate, fast and thorough, portable and rugged. It is inexpensive and allows you to cash in on the bigger jobs that mean more dollars of profit for you.

Stock No.	Qty.	Description	Stock No.	Qty.	Description
A-8L	1	1/4" Long Hex Bit	WA-67	2	Adaptor Set
BA-8-1	1	Socket for Hex Bit	WA-122	1	Cas. Camb. Wr., 1 1/16"
BT-109	1	Brake Pedal Jack	WA-124	1	Cas. Camb. Wr., 3/4"
GCP-1	1	Grease Cap Puller	WA-128	1	Cas. Camb. Wr., 7/8"
TRA-1	1	Tie Rod Tool	WA-130	1	Cas. Camb. Wr., 15/16"
TRA-2	1	Tie Rod Tool	WA-224	1	Cas. Camb. Wr., 3/4"
TRS-1	1	Tie Rod Separator	WA-511	1	Toe-in Gauge
WA-40E	1	Cas. Camb. Wr., 1 1/4"	WA-520	1	Angle Comparator
WA-42E	1	Cas. Camb. Wr., 1 5/16"	WA-601	2	Magnetic Align Ga.
WA-44E	1	Cas. Camb. Wr., 1 3/8"	WA-702	1	Turntable Set
WA-46E	1	Cas. Camb. Wr., 1 7/8"	WA-802	1	Ramp Set, Rear
WA-48E	1	Cas. Camb. Wr., 1 1/2"	WAH-461	1	Ball Joint Skt., 1 29/32"
WA-63	2	Compact Adaptor	WAH-468	1	Ball Joint Skt., 2 1/8"



**[A] WA-520 ANGLE COMPARATOR GAUGE**

Used in conjunction with any of the toe measuring gauges to instantly indicate the toe angle of each wheel. This allows the operator to center the steering wheel at high spot of worm and sector gear.

**[B] WA-518 EXTENSION TO CHECK TRACK**

For use with WA-511 for comparing the distance between the front spindles and rear axles or from rim to rim on both sides of the vehicle. This check instantly indicates why wheels fail to track properly.

**[C] WA-511 TOE-IN GAUGE & TIRE SCRIBER**

An extremely accurate and proven method for reading toe-in and toe-out by measuring marks that have been scribed at the approximate center of front tire treads. Pointers are adjustable to hub height for greater accuracy. Built of heavy, durable castings and galvanized 16 gauge welded steel tubing. Length of bar is 8 feet, and shaped to be free from distortion. Gauge is graduated in thirty-seconds of an inch. May be used on all cars, trucks and busses. Furnished complete with tire scriber.

**[D] WA-510 TRAMMEL BAR**

For quick, accurate toe readings. Legs are offset so that bar may be used with the vehicle on turntables or floor. Gauge reads from the outside of one wheel to the outside of the other. Made of heavy castings and welded steel tubing 8 ft. long. Indicator dial graduated in 32nd's of an inch. Measurements are taken at the truest surface of the tire, the scuff rib. Readings are not affected by bent wheels or irregular tire treads. Vehicle stays in position while it is checked and corrections made.



**A WA-702 TURNTABLE SET**

Full floating mechanism simulates actual road conditions and allows freedom of movement in all directions. Easy-to-remove pins hold plates firmly locked while vehicle is driven on. Pins are chained to base to prevent loss. Enclosed ball bearings are free from dirt, and bearing surfaces are ground. Use on lifts or on the floor.

**B WA-802 REAR WHEEL RAMP SET**

Equipped with four adjusting screws which raise the units up to  $\frac{3}{4}$ ", these ramps may be used on lifts, racks or on the floor with any size turntables.

**C WA-63 ADAPTOR FOR COMPACT CARS**

For compact and foreign cars where no machined hub-surface is provided whereby magnetic gauge may be used.

**D WA-67 ADAPTOR SET FOR TRUCKS AND REAR WHEELS**

Where no machined hub-surface is provided, these parallel ground adaptors make an excellent surface for magnetic gauge attachment.

**E WAH-461 1-29/32" BALL JOINT SOCKET**

For removing and installing the ball joints from the upper and lower "A" frame on late model Plymouth and Dodge cars. Drive size,  $\frac{3}{4}$ " square.

**F WAH-468 2 1/8" BALL JOINT SOCKET**

For removing and installing the suspension ball joints on Chrysler and DeSoto cars. Socket is made with  $\frac{3}{4}$ " square drive.

**G CASTER-CAMBER "U" TYPE WRENCHES**

Throat depth and clearance of the "U" designed to fit all cars requiring this type of adjusting wrench.  $\frac{1}{2}$ " square drive for use with  $\frac{1}{2}$ " drive handles.

**WA-40E**  $1\frac{1}{4}$ " opening for Pontiacs

**WA-42E**  $1\frac{3}{8}$ " opening for Fords

**WA-44E**  $1\frac{3}{8}$ " for Cadillac, Olds.

**WA-46E**  $1\frac{7}{8}$ " for Chrysler, Hudson

**WA-48E**  $1\frac{1}{2}$ " opening for 1952 Ford.

**H WA-224 3/4" CASTER-CAMBER WR.**

For adjusting caster and camber on ball joint suspensions on Ford prior to 1958 and '61 Plymouth.  $\frac{3}{4}$ " 12-pt. opening. Lgth. 18".

**I WA-122 11/16" CASTER-CAMBER WR.**

For caster-camber adjustments on Buick Special ball joint suspension. Length approx., 20".  $\frac{11}{16}$ " 12-point opening.

**J WA-128 7/8" CASTER-CAMBER WR.**

For Buick, Oldsmobile and Cadillac ball joint caster-camber adjustments. Length, approx. 18".  $\frac{7}{8}$ " 12-point opening.

**K WA-124 3/4" CASTER-CAMBER WRENCH**

12-point  $\frac{3}{4}$ " opening for Ford, Mercury and Pontiac caster-camber adjustments. Length,  $18\frac{3}{8}$ " approx.

**L WA-130 15/16" CASTER-CAMBER WR.**

For Nash and Rambler ball joint caster-camber adjustments.  $\frac{15}{16}$ " 12-point opening. Length, approximately 16".

**M HWL-16 1/4" HEX LONG KEY WRENCH**

For many GM cars requiring  $5\frac{1}{4}$ " long  $\frac{1}{4}$ " hex key wrench for set screw adjustments.

**N GCP-1 GREASE CAP PULLER**

A sturdy plier-type grease cap puller forged from alloy steel. Design and construction give more rigidity with less weight. The reach of the claw is set to allow easy one hand operation. Lgth. 11".

**O BT-109 BRAKE PEDAL JACK**

A necessary tool for anyone doing brake bleeding or wheel alignment. Extension exerts continuous pressure at all times.

**P TRA-1 TIE ROD ADJUSTING TOOL  
TRA-2 TIE ROD ADJUSTING TOOL**

Designed to free and adjust the most difficult tie rod sleeves in seconds. Forged hook unit slides along crimp ended shaft allowing rotation in either direction.

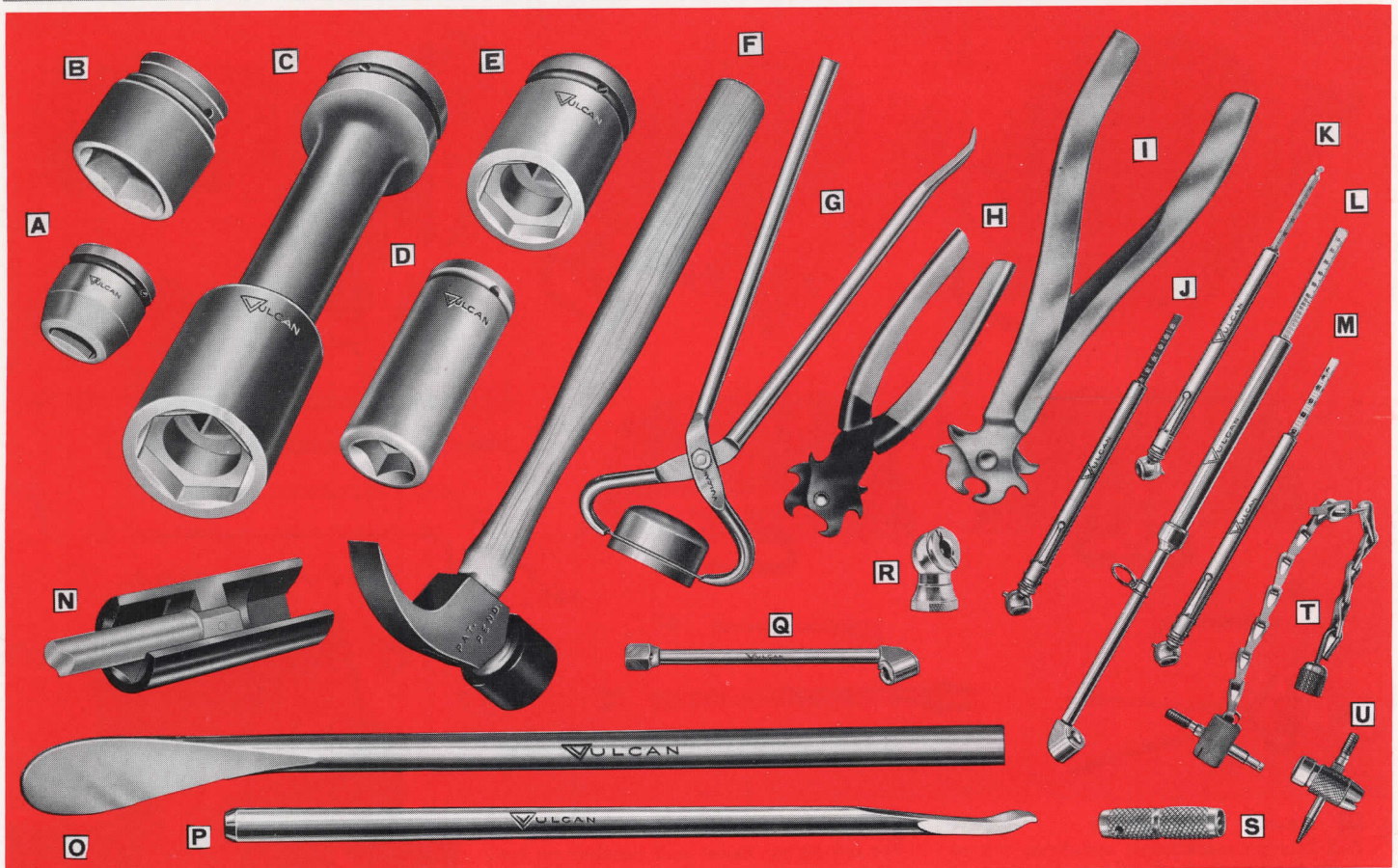
**Q TRS-1 TIE-ROD SEPARATOR**

This powerful Tie Rod Separating Tool with tapered prongs is drop-forged from a single bar of alloy heat-treated steel. Opening is  $2\frac{1}{2}$ ". Overall length is 16".

**R WA-601 CASTER-CAMBER MAGNETIC GAUGE**

This gauge instantly attaches to the only machined surface on the outside of the wheel by means of a powerful, multi-pole Alnico magnet. The gauge stays in this position while all readings are taken and changes made. Caster and camber vials indicate the exact amount of adjustment required. Spring loaded centering plunger sets gauge at exact center of wheel. Gauge case is durable cast aluminum.





**A B C D E BUDD WHEEL IMPACT SKTS.**

More complete descriptions of these Budd Wheel Sockets on pages 44 and 45.

Code	Stock No.	Opening		Sq. Dr.	O. A. Lgth.
		Size	Type		
E	6-BW4	1 $\frac{1}{16}$ & 1 $\frac{1}{2}$	sq. & hex	$\frac{3}{4}$	4
E	6-BW7	1 $\frac{1}{16}$ & 1 $\frac{1}{2}$	sq. & hex	$\frac{3}{4}$	7 $\frac{1}{2}$
A	7-430	1 $\frac{1}{16}$	square	1	2 $\frac{1}{4}$
B	7-656	1 $\frac{1}{16}$	hex	1	2 $\frac{11}{16}$
C	7-BW4	1 $\frac{1}{16}$ & 1 $\frac{1}{2}$	sq. & hex	1	4
C	7-BW9	1 $\frac{1}{16}$ & 1 $\frac{1}{2}$	sq. & hex	1	9
D	16-BW426	1 $\frac{1}{16}$	square	$\frac{3}{4}$	4

**F RH-500 RUBBER TIPPED HAMMER**

**RH-500-1 RUBBER TIP REPLACEMENT**

Handy, dual purpose hammer for all alignment, tire and wheel shops.

**G GCP-1 GREASE CAP PULLER**

A sturdy plier-type grease cap puller forged from alloy steel. Length, 11".

**H 690L 6-3/8" TIRE CHAIN PLIERS**

Designed for passenger car chains. Light weight construction, exceptional strength.

**I 1390L 13" TIRE CHAIN PLIERS**

Repair chains for light trucks and passenger cars. Great power, light weight.

**J TG-2 PENCIL TIRE GAUGE**

All brass. Five pound calibrations to 120#.

**K TG-3 AIR-LIQUID TIRE GAUGE**

Air-liquid Tractor Tire Gauge calibrated 3-50 pounds. Copper-nickel-chrome plate.

**L TG-4 DUAL FOOT TIRE GAUGE**

All brass with copper, nickel, chrome plate. Heavy duty gauge with 6" barrel extension.

**M TG-1 PENCIL TIRE GAUGE**

All brass. One pound calibrations to 50#.

**N A4-2426 WHEEL NUT FLIP SOCKET**

A unique socket for use with 1/2" square impact wrenches. Two hexagon openings, 3/4" and 13/16" at either end for wheel lugs.

**O TT-2 CURVED TIRE IRON**

Popular design. 18" long for leverage.

**P TT-1 OFFSET TIRE IRON, 18"**

Reverse bend for safety to tire and rim.

**Q AC-1 DUAL FOOT AIR HOSE CHUCK**

Solid brass dual foot air chuck for car and truck tires. 1/4" female pipe thread.

**R AC-2 BALL FOOT AIR HOSE CHUCK**

Chrome plate over solid brass for long life. 1/4" female pipe thread.

**S TVT-3 TIRE VALVE TOOL**

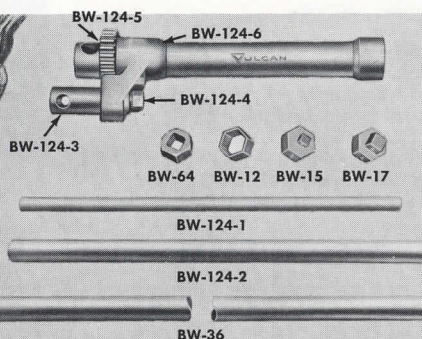
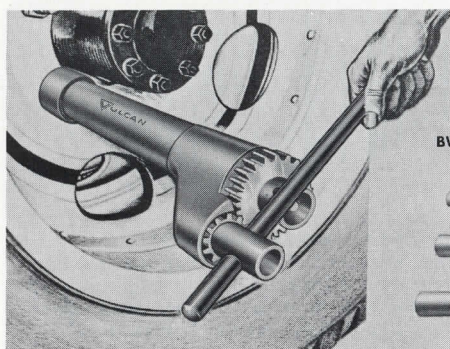
Greatly speeds up tire deflation. Single tool will deflate and remove the core.

**T TVT-2 TIRE VALVE FISHING TOOL**

Time saving tool for all tire repair. Includes four-in-one valve tool.

**U TVT-1 TIRE VALVE E-Z-OUT**

4-in-one tool. Remove and insert valve core. Also, tap and chase core threads.

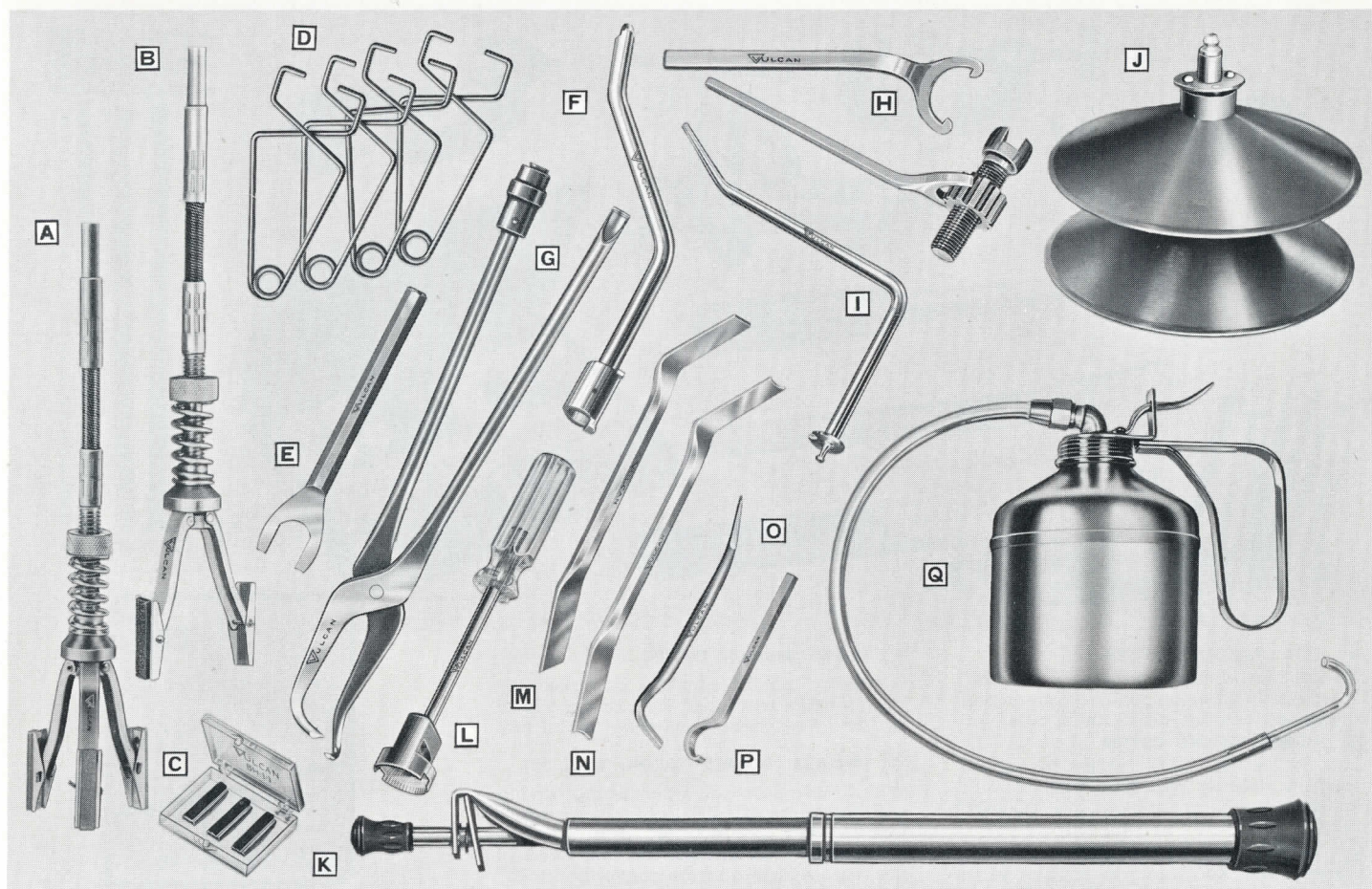


**BW-124 BUDD WHEEL POWER WRENCH SET**

A complete set for Budd Wheels. BW-124 Set consists of BW-124-1, BW-124-2 and the wrench unit of BW-124-3, BW-124-4, BW-124-5 and BW-124-6. Items 12, 15, 17, 36 and 64 are available on separate order and round out a complete set for "U" bolts, head bolts, track bolts and heavy equipment.

Stock No.	Description	Stock No.	Description	Stock No.	Description
BW-124-1	Bar Handle.....	BW-124-5	Inner Wr. 1 $\frac{3}{16}$ " Sq.....	BW-15	Adaptor 1/2" Sq.....
BW-124-2	Tube Handle.....	BW-124-6	Outer Wr. 1 $\frac{1}{2}$ " Hex.....	BW-17	Adaptor 3/4" Sq.....
BW-124-3	Pinion .....		Also available	BW-36	Tube Handle.....
BW-124-4	Pinion Stud Assy.....	BW-12	Adaptor 1 $\frac{3}{16}$ " Hex.....	BW-64	Budd Adaptor.....





**A BH-1 BRAKE CYLINDER HONE**  
Services cylinder diameters from  $\frac{3}{4}$ " to  $2\frac{1}{4}$ ". Will resurface step cylinders and bottom in blind holes. Adjustable tension.

**B BH-2 BRAKE CYLINDER HONE**  
Like the BH-1 above, except 2 stones for small cylinders, 17 mm. (.699") to 51 mm. (2"). Use BH-1-1 replacement stone set.

**C BH-1-1 REPLACEMENT STONE SET, MED.**  
**BH-1-2 REPLACEMENT STONE SET, FINE**  
Medium and fine stone sets for BH-1 and BH-2 listed above.

**D BT-110 SET OF 4 HYDRAULIC BRAKE CLIPS**  
A set of four brake clips for use on hydraulic brake cylinders of all cars. They hold the pistons in place with brake shoes removed.

**E BT-100 BRAKE ANCHOR TOOL**  
A special horseshoe lock removing tool designed for all Chrysler products.

**F BT-107 BRAKE SPRING REMOVER**  
The socket end of this tool is designed for removing springs of Bendix brakes. It may be reversed for longer life. The opposite end returns the spring into position.

**G PL-212 BRAKE SPRING PL. without SKT.**  
**PL-213 BRAKE SPRING PL. with SKT.**  
**PL-213-1 SOCKET ONLY**

Bendix socket end is pinned in place for easy replacement. Both Pliers are heavy-duty construction and  $12\frac{1}{2}$ " overall length.

**H BT-105 CHRYSLER HAND BRAKE TOOL**  
Service all Chrysler product hand brakes from 1950 to present. Positive engagement prevents slipping on the splined nut.

**I BT-108 BRAKE SHOE SPRING REMOVER**  
For cars with brake springs that hook in hole of the brake shoe. Button locates tool and a simple turn engages the spring.

**J PO-10 BEARING PACKER**  
This packer includes a standard grease fitting for power or hand operated guns. Use for bearings from  $\frac{5}{16}$ " I.D. to 5" O.D. Height from 0 to  $2\frac{1}{8}$ ".

**K BT-109 BRAKE PEDAL JACK**  
Adjusts from  $15\frac{1}{2}$ " to  $26\frac{1}{4}$ ". Keeps a steady pedal pressure while bleeding brakes. This tool should be used during wheel alignment.

**L BT-106A BRAKE SPRING COMPRESSOR**  
Remove and replace brake shoe hold-downs. Serrated face fits all buttons.

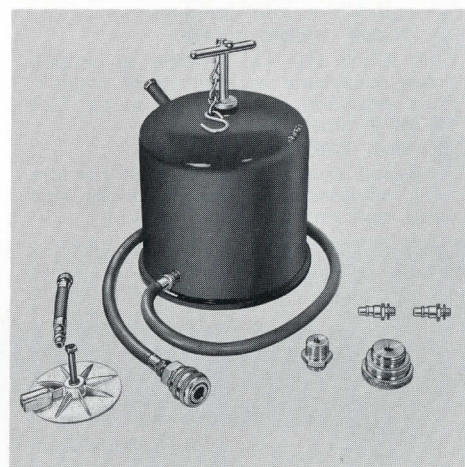
**M BT-101 BRAKE ADJUSTING TOOL**  
A general purpose star wheel brake adjusting tool. Overall length, 8".

**N BT-102 BRAKE ADJUSTING TOOL**  
Notched ends of tool helps prevent slipping off the adjusting wheel.  $8\frac{1}{2}$ " long.

**O BT-103 CHEVROLET BRAKE TOOL**  
Short overall length of  $6\frac{3}{4}$ " necessary to clear obstructions on Chevrolet.

**P BT-104 CHRYSLER BRAKE TOOL**  
Hooks over the splined adjusting nut. No need to slide over the end. Length, 4".

**Q PO-9 BRAKE FLUID DISPENSER**  
Flexible plastic tubing, 22" long with rigid hooked tip. Seamless, drawn steel tank holds one quart of fluid. The pump is heavy-duty brass construction. Nickel plated.



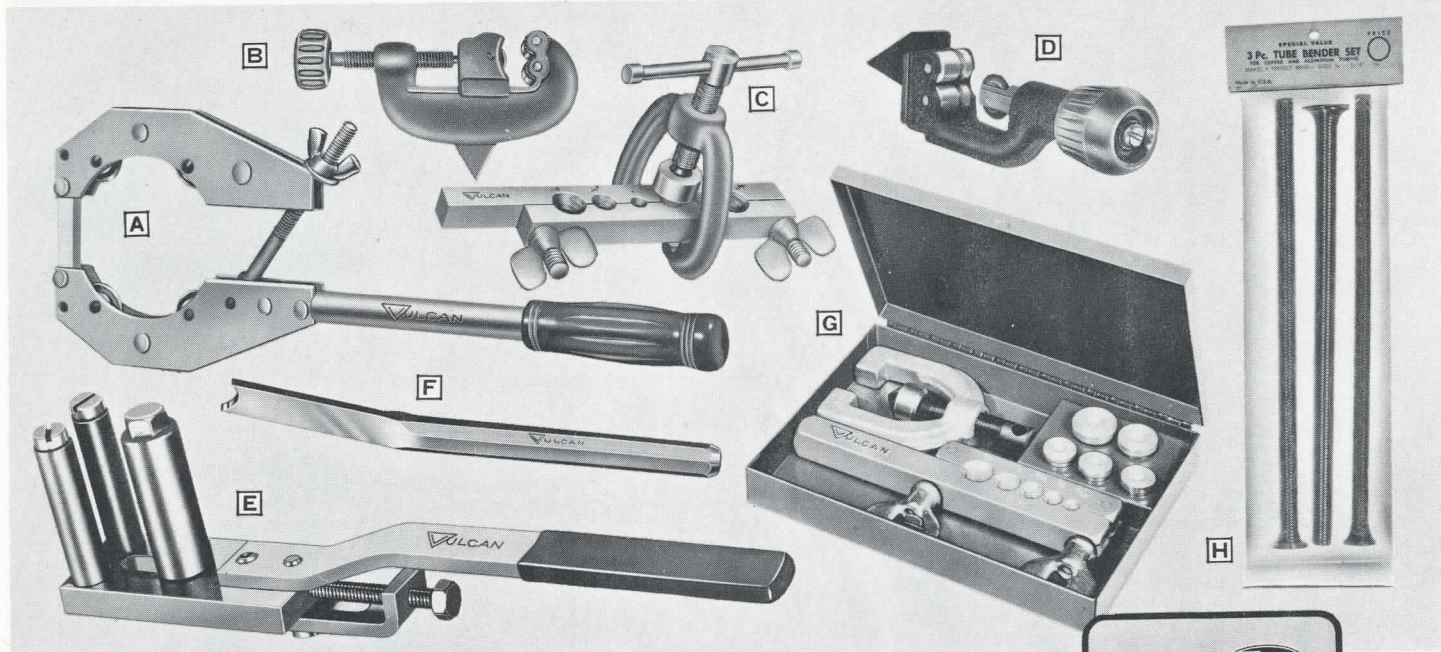
**BB-1 BRAKE BLEEDER**  
A universal Brake Bleeder designed for efficient operation on conventional hydraulic and power brake systems. The one gallon tank is light weight and sturdy. Tank may be filled with 110 ounces of fluid thus eliminating frequent re-filling.

Item	Stock No.	Description
1	BB-1-1	Tank, Hose, Coupler .....
2	BB-1-2	Short Universal Hose, 4" .....
3	BB-1-3	Chrysler Adaptor .....
4	BB-1-4	Universal Adaptor, Small .....
5	BB-1-5	Universal Adaptor, Large .....
6	BB-1-6	Quick Coupler Fitting .....

**ADDITIONAL ADAPTORS NOT IN BB-1 SET**

.....	BB-1-8	Ford, Falcon Adaptor .....
.....	BB-1-9	G.M.C., Chevrolet Truck .....



**A TC-1 TAIL PIPE CUTTER**

For tail pipe diameters from 1½" to 2½". Construction provides positive cutter wheel alignment. Smooth, clean finish cuts.

**B TC-350 TUBING CUTTER**

Cuts ⅝" to 1⅝" O.D. tubing in copper, brass, aluminum and thin wall conduit. Positive thumb screw feed. Use **TC-350W** cutter.

**C TF-175 TUBE FLARING TOOL**

Flares S.A.E. 45° joints in copper, brass and aluminum. Handles ⅜", ¼", ⅝", ⅜", ½" and ⅝" outside diameters.

**D TC-300 TUBING CUTTER**

Cuts ⅝" to 1⅝" O.D. tubing in copper, brass, aluminum and thin wall conduit. Fully enclosed micrometer action. Use **TC-350W** cutter.

**E TR-1 TAIL PIPE RESIZER**

Hardened steel rollers for long life are fully adjustable to remove nicks and dents and round out old pipe.

**F C-810 MUFFLER CUTTER**

"Curl-Cut" design is quick and positive. This durable tool is 10" long and made of ½" oct. alloy steel. Cuts sheet metal too.

**G TFD-163 DOUBLE FLARING TOOL SET**

Will double flare soft steel tubing having wall thickness of .040". Set includes adaptors for ⅜", ¼", ⅝", ⅜" and ½". The adaptor is used to form the first bend of the double flare and the conventional 45° flare completes the operation.

Stock No.	Description	Stock No.	Description
TFD-163-1	Adaptor, ⅜"	TFD-163-4	Adaptor, ⅜"
TFD-163-2	Adaptor, ¼"	TFD-163-5	Adaptor, ½"
TFD-163-3	Adaptor, ⅝"	.....	.....

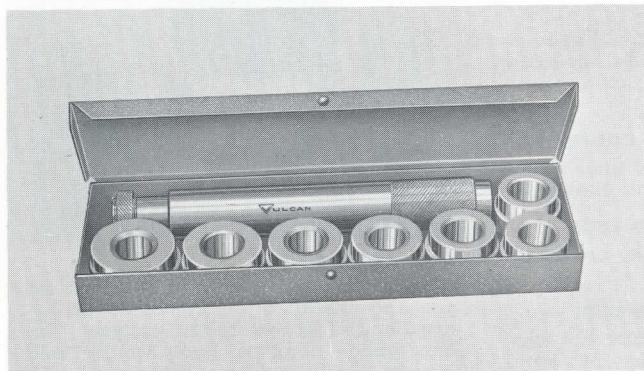
**H TB-3S SPRING TUBE BENDER SET**

External type spring tube benders to do perfect bending on copper, aluminum and soft thin-wall tubing. Sizes: ¼", ⅝", ⅜".

**I LCF-5K 5 FLARE NUT WRENCHES in K-52 Kit**  
**LCF-5 5 FLARE NUT WRENCHES without Kit**

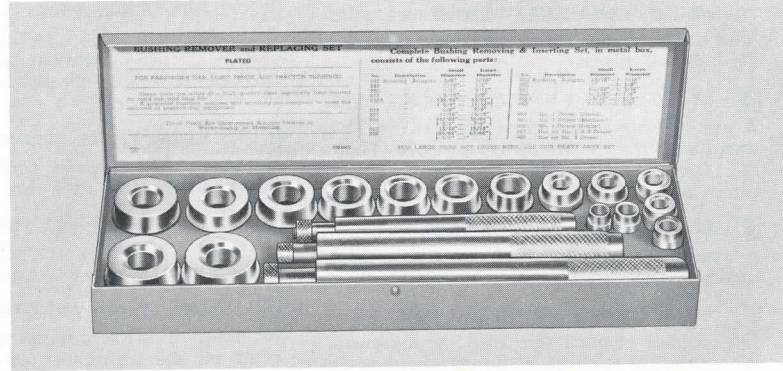
See page 38 for complete details and sizes

Stock No.	Description
1312	Combination Split Box-End, ⅜"
1314	Combination Split Box-End, ½"
1316	Combination Split Box-End, ⅝"
1318	Combination Split Box-End, ⅝"
1320	Combination Split Box-End, ⅝"

**BR-25 BUSHING DRIVER SET IN METAL BOX**

Heavy duty Bushing Driver Set for the big jobs. Will handle steering knuckles and piston rings for heavy farm and over-the-road tractors and equipment.

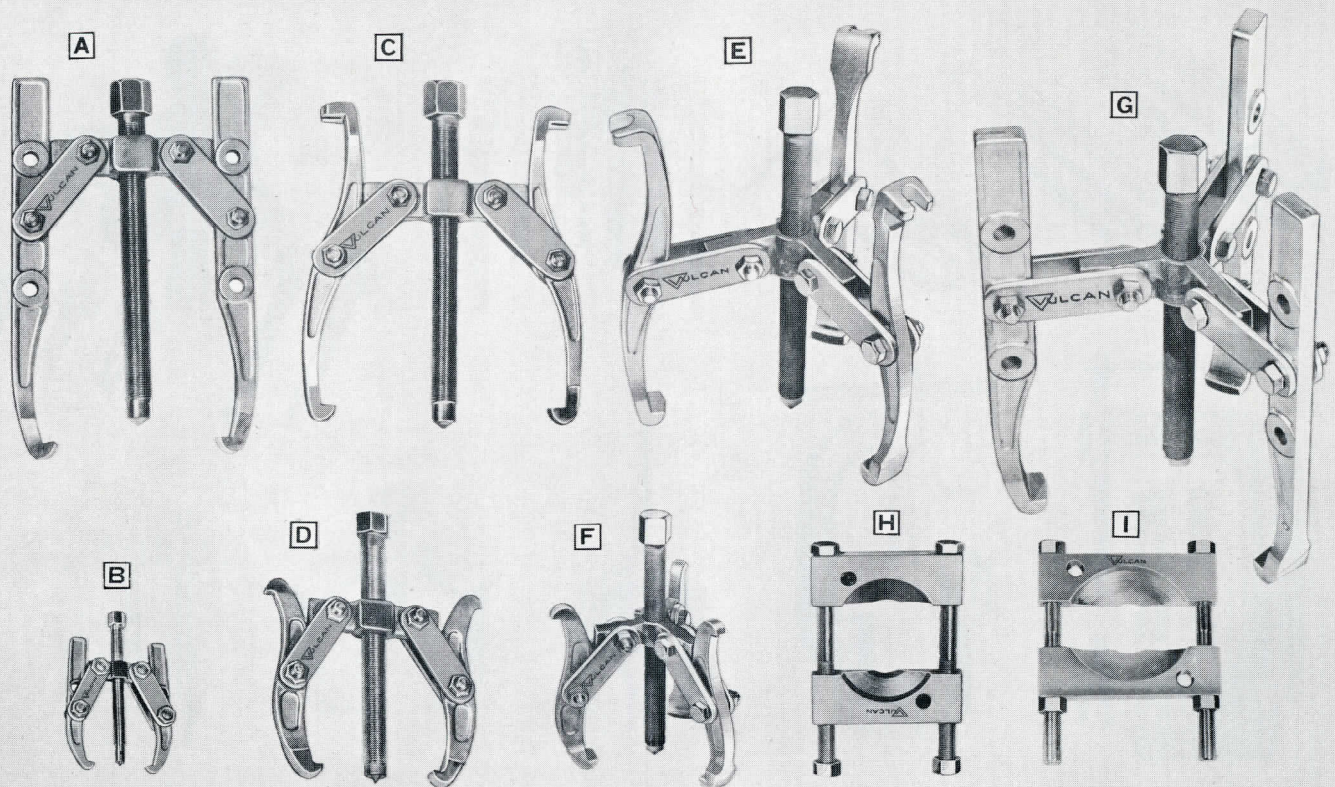
Stock No.	Description	Stock No.	Adaptor Size	Stock No.	Adaptor Size
<b>DRIVER &amp; NUT</b>		<b>BR-2-5</b>	1⅝" & 1⅞"	<b>BR-2-9</b>	1⅞" & 1⅞"
<b>BR-2-1</b>	Driver.....	<b>BR-2-6</b>	1⅞" & 1⅞"	<b>BR-2-10</b>	1⅞" & 1⅞"
	Nut.....	<b>BR-2-7</b>	1⅞" & 1⅞"	<b>BR-2-11</b>	1⅞" & 1⅞"
<b>BR-2-4</b>	Nut.....	<b>BR-2-8</b>	1⅞" & 1⅞"		

**BR-15 BUSHING DRIVER SET IN METAL BOX**

A complete Bushing Driver and Inserting Set for bushing sizes from ⅜" up to and including 1⅞". Will handle all passenger cars and many trucks and tractors. Machined adaptors will fit bushings accurately.

Stock No.	Description	Stock No.	Adaptor Size	Stock No.	Adaptor Size	Stock No.	Adaptor Size
<b>DRIVERS AND NUTS</b>		<b>BR-1-6</b>	⅜" & ⅞"	<b>BR-1-11</b>	⅜" & ⅞"	<b>BR-1-16</b>	1⅞" & 1⅞"
<b>BR-1-1</b>	Driver, Small..	<b>BR-1-7</b>	⅞" & 1"	<b>BR-1-12</b>	1⅞" & 1⅞"	<b>BR-1-17</b>	1 & 1⅞"
<b>BR-1-2</b>	Driver, Med.....	<b>BR-1-8</b>	1" & ⅞"	<b>BR-1-13</b>	1⅞" & 1⅞"	<b>BR-1-18</b>	1⅞" & 1⅞"
<b>BR-1-3</b>	Driver, Large..	<b>BR-1-9</b>	⅞" & ⅞"	<b>BR-1-14</b>	1⅞" & 1⅞"	<b>BR-1-19</b>	1⅞" & 1⅞"
<b>BR-1-4</b>	Nut for 1 & 2..	<b>BR-1-10</b>	⅞" & 1⅞"	<b>BR-1-15</b>	1⅞" & 1⅞"	<b>BR-1-20</b>	1⅞" & 1⅞"
<b>BR-1-5</b>	Nut for 3.....					<b>BR-1-21</b>	1⅞" & 1⅞"



**A GP-210A 2 JAW ADJ. GEAR PULLER**

A rugged puller for heavy duty work. The three position adjustment of the 2 jaws makes this puller a multi use tool for fly wheel gears and pulleys. 9" reach, 10" spr.

Stock No.	Description
GP-210A-1	Yoke.....
GP-210A-2	Pressure Screw.....
GP-210A-3	Jaw, each.....
GP-210A-5	Link, each.....
GP-210A-7	Bolt, each.....
GP-210A-8	Nut, each.....

**B GP-204A 2 JAW ADJ. GEAR PULLER**

Small, rugged puller for removing magneto and generator bearings and gears. Ideal for electric motors. Jaws are designed for two positions allowing extra reach. Has 3½" reach and 4" spread.

Stock No.	Description
GP-204A-1	Yoke.....
GP-204A-2	Pressure Screw.....
GP-204A-3	Jaw, each.....
GP-204A-5	Link, each.....
GP-204A-7	Bolt, each.....
GP-204A-8	Nut, each.....

**C GP-208R 2 JAW REV. GEAR PULLER**

Designed for heavy duty pulling on cars, trucks and tractors. Jaws are reversible and one end has slots for cap screws. Center screw is buttress thread. May be used with GP-101. Reach 5½", spread 8".

Stock No.	Description
GP-208R-1	Yoke.....
GP-208R-2	Pressure Screw.....
GP-208R-3	Jaw, each.....
GP-208R-5	Link, each.....
GP-208R-7	Bolt, each.....
GP-208R-8	Nut, each.....

**D GP-206R 2 JAW REV. GEAR PULLER**

Reversible jaws have a wide face on one end and narrow face on the other. Center screw has buttress thread. May be used with GP-100. Reach 3½", spread 6".

Stock No.	Description
GP-206R-1	Yoke.....
GP-206R-2	Pressure Screw.....
GP-206R-3	Jaw, each.....
GP-206R-5	Link, each.....
GP-206R-7	Bolt, each.....
GP-206R-8	Nut, each.....

**E GP-308R 3 JAW REV. GEAR PULLER**

Heavy duty puller for cars, trucks and tractors. The three jaws provide solid 3 point grip and that "extra" power so often needed to pull gears and pulleys. Reversible jaws. Reach 5½", spread 8".

Stock No.	Description
GP-308R-1	Yoke.....
GP-308R-2	Pressure Screw.....
GP-308R-3	Jaw, each.....
GP-308R-5	Link, each.....
GP-308R-7	Bolt, each.....
GP-308R-8	Nut, each.....

**F GP-306R 3 JAW REV. GEAR PULLER**

Three reversible jaws having a wide face on one end and narrow face on the other. This feature provides for maximum safety and utility. Alloy steel, heat-treated forging. Reach 3½", spread 6".

Stock No.	Description
GP-306R-1	Yoke.....
GP-306R-2	Pressure Screw.....
GP-306R-3	Jaw, each.....
GP-306R-5	Link, each.....
GP-306R-7	Bolt, each.....
GP-306R-8	Nut, each.....

**G GP-310A 3 JAW ADJ. GEAR PULLER**

A real heavy duty puller, engineered and constructed for rugged pulling. The three forged jaws are adjustable to three positions making this puller versatile in every way. It has a maximum reach of 9" and the jaw spread is from 0" up to 10". The center screw has a hex head for turning and features a buttress thread for the greatest possible strength. Thread size of the center screw is ¾-16 and the length is 8¾". A multiuse tool for fly wheel gear and pulley removal.

Stock No.	Description
GP-310A-1	Yoke.....
GP-310A-2	Pressure Screw.....
GP-310A-3	Jaw, each.....
GP-310A-5	Link, each.....
GP-310A-7	Bolt, each.....
GP-310A-8	Nut, each.....

**H GP-100 2-1/4" BEARING SEPARATOR**

For generator gears, bearings, bearing cones, etc. Where regular puller jaws will not reach. Knife edges are flush on one side. Use with GP-10 (pg. 69) and GP-206R.

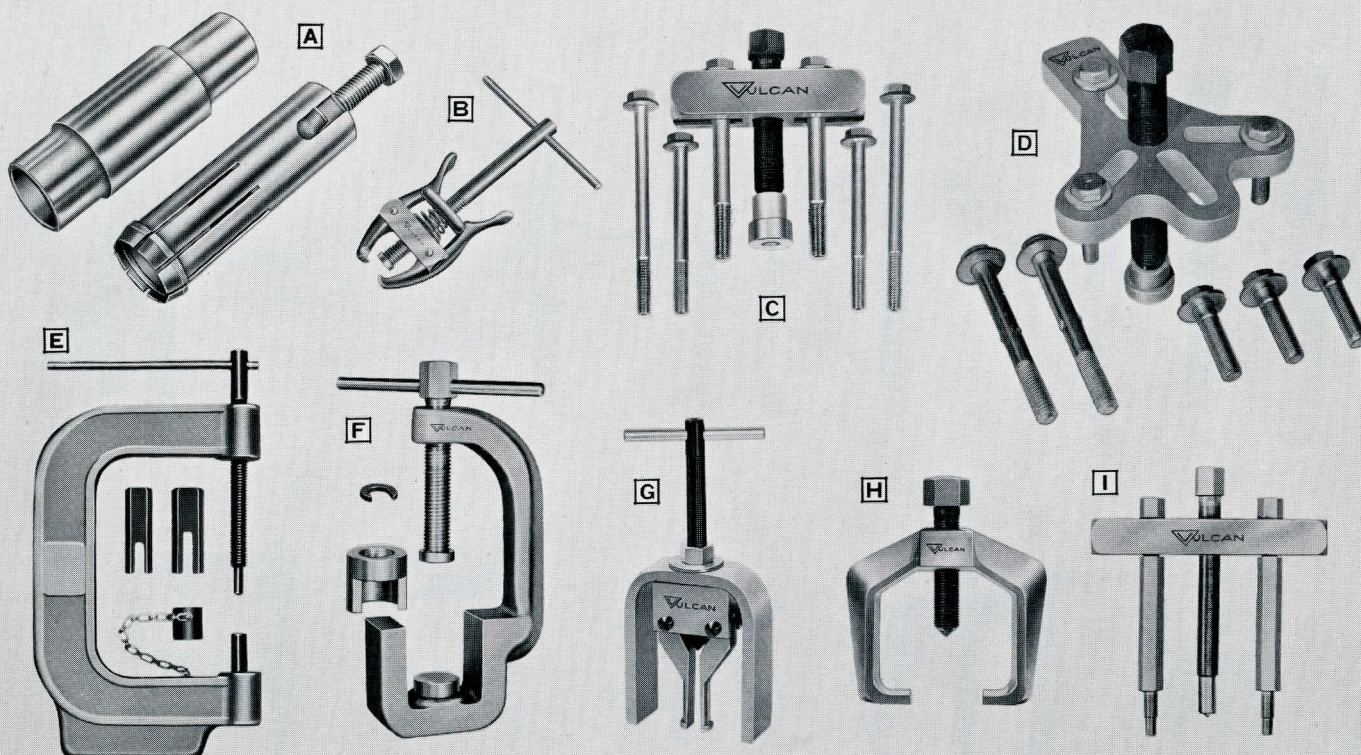
Stock No.	Description
GP-100-1	Body, pair.....
GP-100-4	Side Screw, each.....
GP-100-8	Nut, each.....

**I GP-101 4-1/4" BEARING SEPARATOR**

Knife edges are flush on one side to get behind work for easy pulling. Like GP-100, above, except the capacity is from 0" to 4¼". Use with GP-208R described at "C".

Stock No.	Description
GP-101-1	Body, pair.....
GP-101-4	Side Screw, each.....
GP-101-8	Nut, each.....





**A PU-1 TRANSMISSION BUSHING PULLER**  
**PU-2 TRANSMISSION BUSHING PULLER**  
**PU-3 TRANSMISSION BUSHING PULLER**

Three separate tools, all with the same time saving features and design. Now worn bushings can be pulled and new bushings inserted in three simple operations. Only 15 minutes are now required to do a job that used to take 4 to 5 hours. Increase your transmission work and save time and money. PU-1 for Falcon and Comet. PU-2 for Ford (large transmission), Lincoln and Mercury. PU-3 for Ford (small trans.), Mercury to 1954 and Chevrolet.

**B PU-21 BATTERY CLAMP PULLER**

A quality Puller of unexcelled design and material. Sharp jaws engage either below or on the sides of the cable terminal. The forcing screw will lift the tightest terminals without damage to battery case or posts. Swivel is designed so it may also be used for generator bearings and magnet gears. Range,  $\frac{3}{8}$ " to  $1\frac{3}{8}$ ".

Stock No.	Description	Stock No.	Description
PU-21-1	Yoke	PU-21-7	Jaw Pin, ea.
PU-21-2	Center Screw	PU-21-10	Body
PU-21-3	Jaw, each	PU-21-11	Spring
PU-21-6	Swivel, Spring		

**C GP-20 STEERING WHEEL PULLER**

This tool is designed to pull steering wheels on all major cars. The cross arm is 4" long, made of 1" square steel. The center screw is  $\frac{5}{8}$ -18 x 4". Only one swivel is necessary on this tool. The floating swivel is recessed in the end so as not to damage the spring tip connected to the horn wires on Buick and Cadillac. Includes 3 sets (2 ea.) screws 4A, 4B, 4C.

Stock No.	Description	Stock No.	Description
GP-20-1	Yoke	GP-20-4B	Scr. $\frac{5}{8}$ -24 x $3\frac{1}{2}$
GP-20-2	Center Screw	GP-20-4C	Scr. $\frac{3}{8}$ -16 x 4
GP-20-4A	Scr. $\frac{5}{8}$ -18 x $4\frac{1}{2}$	GP-20-6	Swivel, Spring

**D GP-30 HARMONIC BALANCER PULLER**

This Puller is designed to pull Balancers, Vibration Dampers, Pulleys and gears with tapped holes. The four slots in the yoke allow use of this tool in either two or three hole applications. Swivel design provides for full floating action thus preventing damage to the shaft ends. Each puller is finished in contrasting cadmium plate and black oxide and is individually packaged. Included with each puller are (3) GP-30-4A, (3) GP-30-4B and (2) GP-30-4C. This is a very versatile Puller and is a "must" for all good mechanics.

Stock No.	Description	Stock No.	Description
GP-30-1	Yoke	GP-30-4B	Scr. $\frac{3}{8}$ -24 x 2
GP-30-2	Center Screw	GP-30-4C	Scr. $\frac{3}{8}$ -16 x 4
GP-30-4A	Scr. $\frac{5}{8}$ -18 x 2	GP-30-6	Swivel, Spring

**E GP-12 ALTERNATOR DIODE REMOVING AND INSTALLING TOOL**

Eliminates the need for using an arbor press or hammer for replacing one or a set of diodes. Keeps the diode accurately aligned. This is essential for trouble free service. Works exceptionally well on alternators having diodes pressed in.

Stock No.	Description
GP-12-3	Removing Adaptor.....
GP-12-4	Installing Adaptor.....
GP-12-7	Support Adaptor.....

**F GP-11 UNIVERSAL JOINT TOOL**

For removal and assembly of universal joints on the majority of passenger cars and light trucks. Special adaptor allows cups to be removed in one simple operation. Horseshoe spacer for use on certain joints having longer than normal skirts. Complete instructions furnished.

Stock No.	Description
GP-11-5	Special Adaptor.....
GP-11-7	Horseshoe Spacer.....

**G GP-60 PILOT BEARING AND BUSHING PULLER**

A Bearing Puller that may be used for removing flywheel pilot bearings on cars, trucks and tractors where working space is limited. Will also pull bearings and bushings on motors, generators, starters and magnetos. Capacity from  $\frac{1}{2}$ " minimum to  $1\frac{1}{2}$ " maximum. Overall lgth.  $7\frac{1}{4}$ ". \*GP-60-3A,  $\frac{3}{8}$ " to  $1\frac{3}{8}$ " special order only.

Stock No.	Description	Stock No.	Description
GP-60-1	Yoke	GP-60-9	Retain Bar
GP-60-2	Center Screw	GP-60-10	Body
GP-60-3	Jaw, each	GP-60-11	Nut
*GP-60-3A	Jaw, each	GP-60-12	Washer
GP-60-7	Jaw Screw		

**H GP-40 PITMAN ARM PULLER**

A universal Pitman Arm Puller designed to eliminate the necessity for the mechanic to have several different sizes and types of pullers to do the same job. The VULCAN GP-40 will remove the Pitman Arm from the large majority of passenger cars and light trucks.

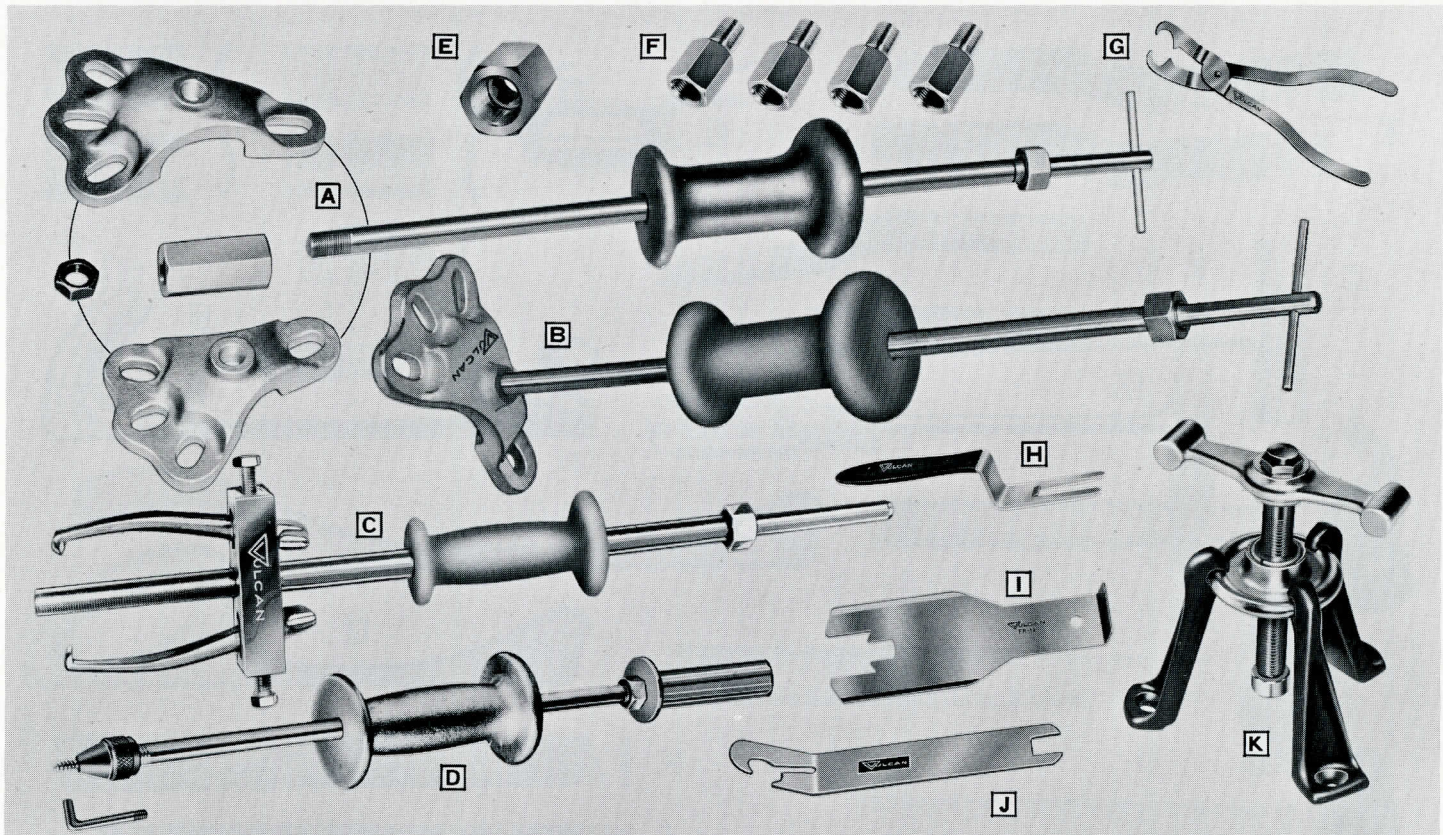
Stock No.	Description
GP-40-1	Yoke.....
GP-40-2	Center Screw.....

**I GP-10 TIMING GEAR PULLER**

Here is an excellent puller, attractively finished in cadmium plate and black oxide, designed especially for pulling timing gears, fan pulleys, balancers, cam gears, etc. The sturdy cross arm or yoke is 1" square steel by  $6\frac{1}{2}$ " long. Center screw is  $5\frac{1}{2}$ " long with  $\frac{5}{8}$ -18 thread. Side bolts are dual threaded,  $\frac{3}{8}$ -16 and  $\frac{5}{8}$ -18.

Stock No.	Description
GP-10-1	Yoke.....
GP-10-2	Center Screw.....
GP-10-4	Side Screw, each.....



**A GP-555 FLANGE AXLE PULLER SET**

A universal Flange Axle Puller Set designed to handle just about every car on the road. Actually, this set is a combination of GP-50 and GP-55 described below, as well as GP-51 described at "E". The extra heavy sliding hammer has a comfort grip and large flanges to protect the hand. It will deliver a blow to really jar loose the most stubborn jobs.

Stock No.	Description
GP-50-1	Yoke and Jam Nut .....
GP-55-1	Yoke and Jam Nut .....
GP-51	Threaded Axle Adaptor .....
GP-555-2	Center Rod Assembly .....
GP-555-13	Sliding Hammer .....

**B GP-50 FLANGE AXLE PULLER  
GP-50-1 YOKE AND JAM NUT ONLY**

The bolt circle range of the yoke is from 4½" to 5½" which covers most cars and trucks using flange type axles. The four slots in the adaptor allow this tool to be used with either 4, 5 or 6 bolt stud designs.

Stock No.	Description
GP-50-1	Yoke and Jam Nut .....
GP-50-2	Center Rod Assembly .....
GP-50-13	Sliding Hammer .....

**B GP-55 FLANGE AXLE PULLER  
GP-55-1 YOKE AND JAM NUT ONLY**

The same basic tool as GP-50 described above except that the adaptor yoke is smaller for compact cars. This particular adaptor is specifically required for Lancer, Dart and Valiant cars.

Stock No.	Description
GP-55-1	Yoke and Jam Nut .....
GP-55-2	Center Rod Assembly .....
GP-55-13	Sliding Hammer .....

**C GP-204S SLIDING HAMMER PULLER**

The GP-204S is a dual purpose Slide Hammer Puller to increase your earnings because it saves you time. The tool is especially designed for rear axle work, for pulling bearing races and grease seals. Also, the jaws may be reversed for pulling bearings. This is a really rugged puller with a two pound hand fitting sliding hammer capable of pulling the most stubborn gears up to 4 inches in diameter. A beautifully engineered and constructed puller finished in contrasting cadmium plate and black oxide. Use with GP-492 Adaptor Set, "F".

Stock No.	Description
GP-204S-1	Yoke (Cross Bar) .....
GP-204S-2	Center Rod Assembly .....
GP-204S-3	Puller Jaw, each .....
GP-204S-7	Jaw Screw, each .....
GP-204S-13	Sliding Hammer .....

**D FR-38 BODY DENT PULLER  
FR-38-1 SHEET METAL SCREW ONLY  
FR-38-17 PULLING HOOK ONLY**

The sliding hammer is designed to eliminate any possibility of finger or hand pinching, and weighs 2½ pounds. Shaft includes screw driver tip to lock self tapping screw.

**E GP-51 AXLE ADAPTOR**

A threaded coupling adaptor to fit the axle shafts of many cars. Center is threaded ⅝"-18 and ends are ¼"-16 and ⅞"-14.

**F GP-492 SET OF 4 THREADED ADAPTORS**

Allow you to use various pulling attachments with different thread sizes.

Stock No.	Description
GP-492-3	Male ⅝"-18, Female ⅞"-18 .....
GP-492-4	Male ⅞"-18, Female ⅝"-18 .....
GP-492-5	Male ¾"-16, Female ⅝"-18 .....
GP-492-6	Male ⅝"-18, Female ¾"-16 .....

**G FR-9 DOOR HANDLE CLIP PLIERS**

Rolls out door handle springs with ease on GM cars since 1933, Fords since 1951. Strong, thin jaws made of spring steel.

**H FR-10 CHRYSLER DOOR HANDLE TOOL**

Releases spring clip on late model Chrysler makes. Raised edge engages spring retainer.

**I FR-12 DOOR HANDLE TOOL**

The easiest door handle tool for GM and Ford. Depth and contour of the slot will prevent clip from flying off stud.

**J FR-11 DOOR HANDLE TOOL**

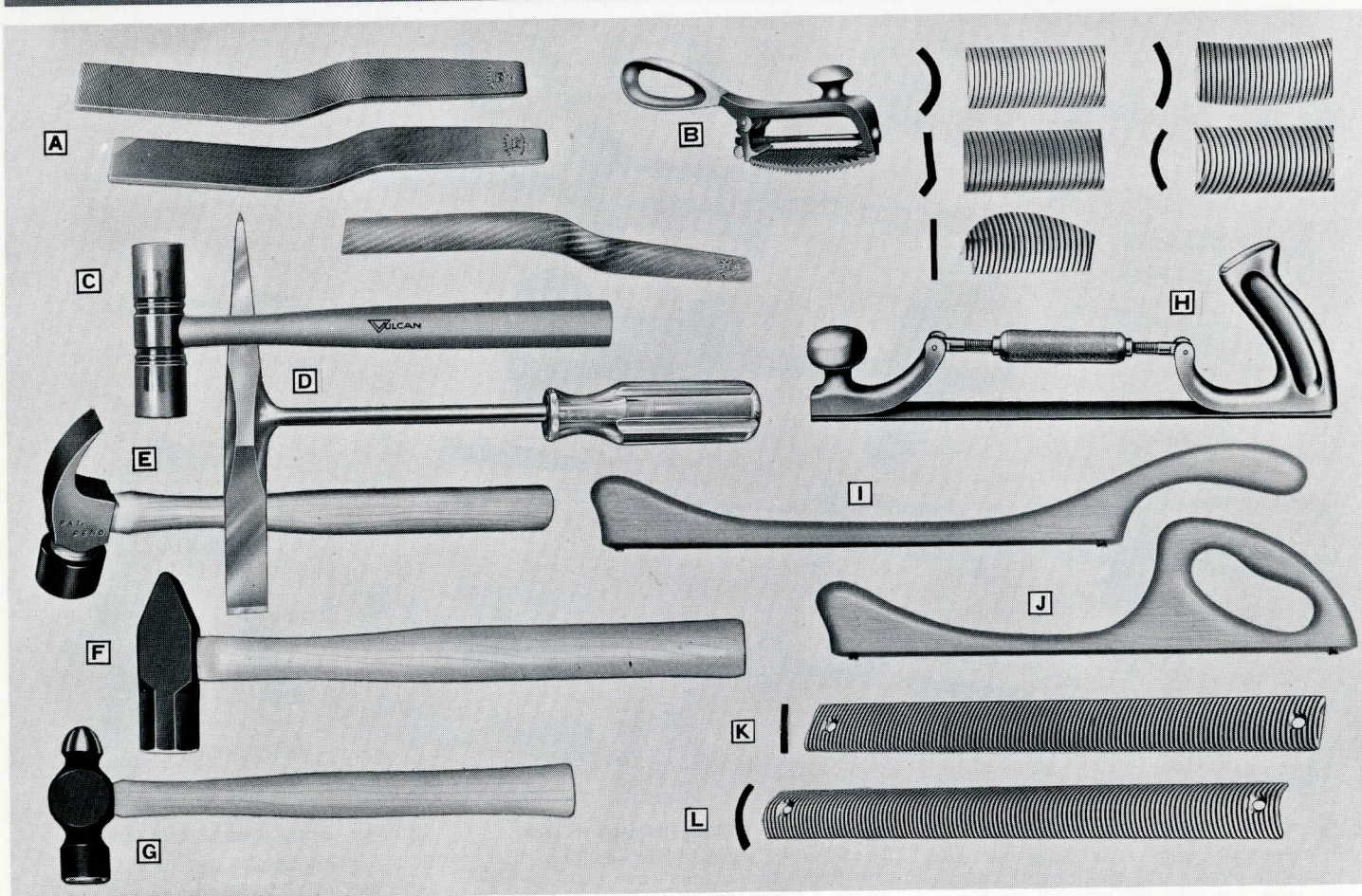
The square slotted end pushes the clip from GM and Ford door handles. The other end for cars using larger clips.

**K GP-300 UNIVERSAL WHEEL HUB PULLER**

This is the most practical and versatile Wheel Hub Puller made. Sliding and fully adjustable puller arms are quickly and easily set to fit any type hub. The floating swivel cap on the contact end of the screw centers on the axle and, by its action, prevents injury to the axle or the puller screw. The forcing screw may be turned with a wrench or the heavy duty striking handle which is furnished. The striking handle is especially designed and constructed so that a hammer may be used on tough jobs.

Stock No.	Description
GP-300-2	Center Screw with Ball and Spring .....
GP-300-3	Jaw (Leg), each .....
GP-300-6	Swivel and Retainer Ring .....
GP-300-10	Threaded Body (Nut) .....
GP-300-13	Striking Handle .....
GP-300-14	Hub only .....
GP-300-15	Lock Ring for Body .....



**A F-300B SET OF 3 BODY BUMPING FILES**

All three files are  $1\frac{3}{8}$ " wide and 12" long. For use against dolly blocks in slapping out fender and body dents. They tend to contract rather than expand or stretch the metal. These are sturdy top-quality tools.

Stock No.	Description
F-31B	Flat Coarse-Cut Body Bumping File.....
F-32B	Flat Medium-Cut Body Bumping File .....
F-33B	Half Round Medium-Cut Body Bumping File

**B F-600R WINDOW REVEAL FILE SET AND HOLDER**

An unusually useful file set for working in small corners, on ledges and overhangs and similar hard-to-get-at places. These special shapes and holder make the most complete set of reveal files available for auto-body work.

Stock No.	Description
F-60H	Window Reveal File Holder, 7" long.....
F-61R	Half Round Shell File, $2\frac{3}{4}$ " long.....
F-62R	Flat Square-Cornered File, $2\frac{3}{4}$ " long.....
F-63R	Round Cornered File, $2\frac{3}{4}$ " long.....
F-64R	Half-Round Bent Shell File, $2\frac{3}{4}$ " long.....
F-65R	Half-Round Moulding File, $2\frac{3}{4}$ " long.....

**C PYRALIN TIP HAMMERS**

Just right for all kinds of work where finish or nature of part would be damaged by using a metal hammer. Tough plastic tips withstand repeated pounding.

Stock No.	Weight	Length		Replacement Nos.	
		Head	Over all	Tips	Handles
HP-8	8 oz.	$3\frac{3}{4}$	$11\frac{1}{2}$	HP- 8-1	HP- 8-2
HP-12	12 oz.	$4\frac{1}{4}$	$13\frac{1}{2}$	HP-12-1	HP-12-2
HP-16	1 lb.	$4\frac{3}{4}$	$13\frac{1}{2}$	HP-16-1	HP-16-2

**D HC-12 CHIPPING HAMMER**

One end has  $\frac{5}{8}$ " wide chisel face, the other has a pointed pick. Hardened, alloy steel head can be easily resharpened. Perfect for chipping and cleaning operations for the welder. Comfortable plastic handle.

**E RH-500 RUBBER-TIPPED WHEEL COVER HAMMER****RH-500-1 REPLACEMENT TIP**

A practical and efficient tool for removing and replacing all makes of automotive wheel covers. Curved claw extractor. Rubber flex head prevents marring. Length, 12".

**F EH-48 CROSS PEIN HAMMER****EH-48-2 HANDLE ONLY**

A well balanced hammer with the weight distribution off center adding more power to the hammer blow. Black japanned body. Face and pein brightly polished. Head weight, 3 lbs. Overall length,  $15\frac{1}{2}$ ".

**G BALL PEIN HAMMERS**

Elliptical peining face offers many advantages in heavy peining operations. Forged from high grade carbon steel, specially heat-treated to assure exact degree of hardness for hammer faces, bodies and peins. Faces and peins brightly polished. Strong, selected hickory handles.

Stock No.	Weight	Overall Length	Handle Replace. No.
BH-4	4 oz.	$9\frac{1}{2}$	HH-4
BH-8	8 oz.	$11\frac{3}{8}$	HH-8
BH-12	12 oz.	$13\frac{1}{4}$	HH-16
BH-16	1 lb.	$14\frac{1}{4}$	HH-16
BH-20	$1\frac{1}{4}$ lbs.	$14\frac{1}{2}$	HH-24
BH-24	$1\frac{1}{2}$ lbs.	$14\frac{3}{4}$	HH-24
BH-32	2 lbs.	$15\frac{1}{4}$	HH-40
BH-40	$2\frac{1}{2}$ lbs.	$16\frac{1}{4}$	HH-40

**H FHF-1 FLEXIBLE METAL FILE HOLDER**

Although light in weight, this Vulcan file holder is extremely rigid and comfortably balanced. File may be flexed either way to maximum point of safety against breakage. Before flexing, the bolt which attaches blade to the rear of holder should be loosened. Length, 14".

**I FH-214 14" FILE HOLDER**

Slim design to allow proper file overhang on both sides. Made from top grade hard maple, light weight yet durable. By inserting wedge under center, file can be convexed. Use with F-14V or F-14VR.

**J FH-114 14" FILE HOLDER**

Hard maple is used for this light weight, slim but durable file holder. This is a shape preferred by many body men. File overhangs slightly on both sides. Use with numbers F-14V and F-14VR.

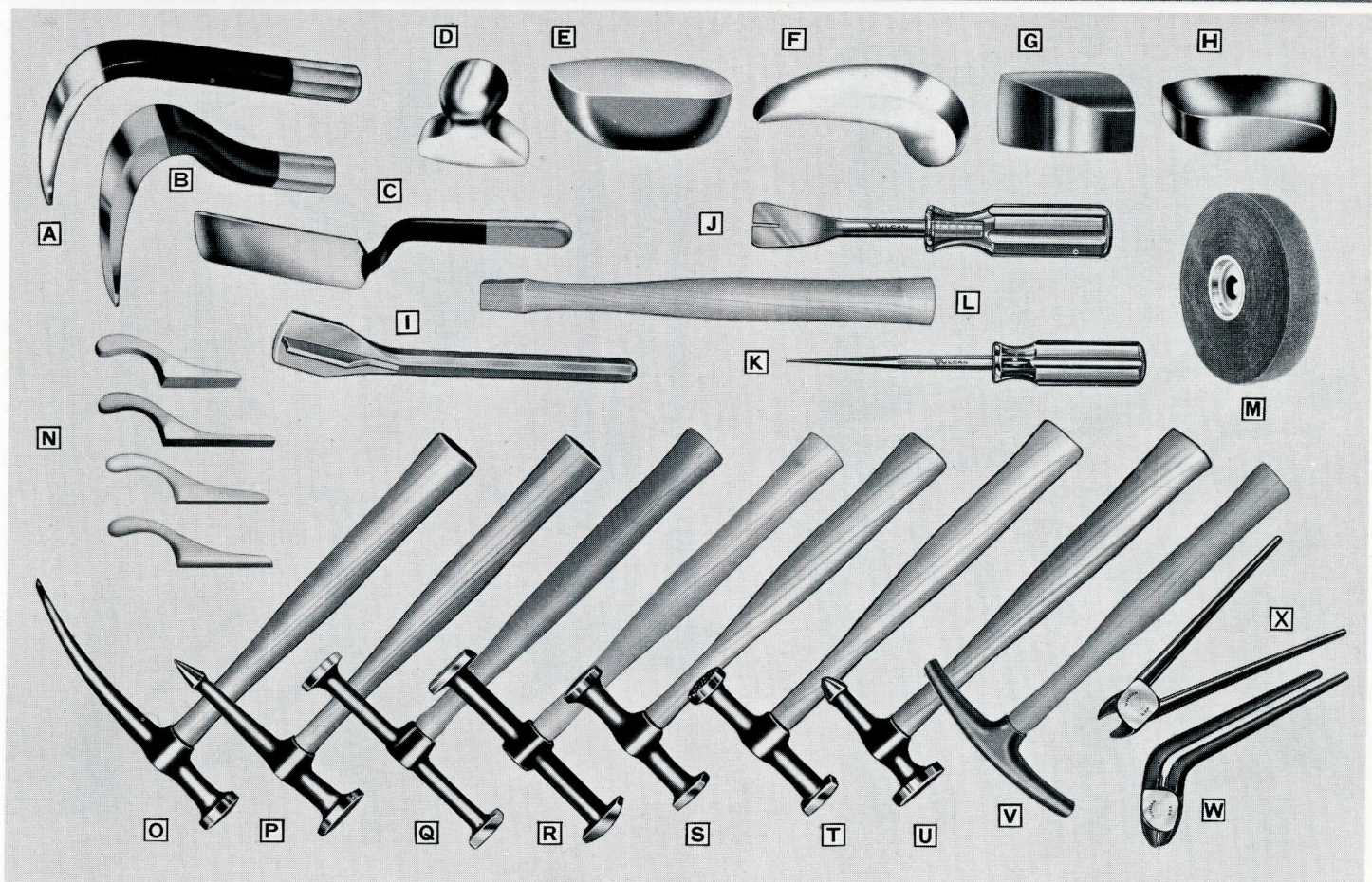
**K F-14V FLAT 8-TOOTH VIXEN FILE****F-14V-6 FLAT 6-TOOTH VIXEN FILE**

Particularly adapted to all types of auto body and sheet metal work. Tooth design clears chips easily for better application on epoxies. Can be adjusted in holder to file flat, convex or concave. Use with FHF-1 or FH-114 holders. Length, 14".

**L F-14VR HALF ROUND SHELL 8-TOOTH VIXEN FILE**

Half round  $\frac{1}{8}$ " x  $1\frac{1}{2}$ " wide x 14" long 8-tooth design. Does many jobs no other file will do. Use with wooden holder FH-214 or flexible holder FHF-1. Curved teeth are milled in one side only.



**A FRS-30 LONG TURRET TOP SPOON**

Long handle gives balance when used as a dolly behind reinforcements. Length, 10".

**B FRS-40 GENERAL PURPOSE SPOON**

Used as a dolly behind brackets, inner panels, etc. Offset for balance and long reach.

**C FRS-20 LIGHT DINGING SPOON**

For dinging ridges smooth and level. When struck with hammer, spreads blow over large area for a smooth job. Length, 10".

**D FRD-3 ANVIL DOLLY**

Provides comfortable grip during heaviest blows. Has two beading and flange lips.

**E FRD-5 LOW CROWN DOLLY**

For use on low-crown panels. Angle permits dolly to reach into corner of a flanged edge.

**F FRD-2 HEEL DOLLY**

Easily reaches into sharp corners and wide radii. Size,  $3\frac{1}{4}" \times 2\frac{1}{2}" \times 1\frac{1}{16}"$ .

**G FRD-4 WEDGE DOLLY**

Long, slender, general purpose dolly. Long, thin lip for working behind reinforcements.

**H FRD-1 TOE DOLLY**

For easy accessibility in narrow pockets. Flat face for shrinking and dinging panels.

**I FR-2 PANEL CUTTER**

Turns in short radius to cut complex shapes easily. Blade offset for clearance, 10" long.

**J FR-1 UPHOLSTERY CLIP REMOVER**

For removing car door upholstery panel clips having nail-type shanks. Length, 8".

**K SA-4 SCRATCH AWL**

Hard, sharp point for piercing various materials and scribing or tracing patterns.  $8\frac{1}{2}"$  overall.

**L HHB-42 HAMMER HANDLE**

Selected straight grain hickory handle to fit all "FRH" hammers on this page.

**M ER-150 1" SANDING CLOTH**

50 yards of 1" wide cloth, 50 grit.

**ER-180 1" SANDING CLOTH**

50 yards of 1" wide cloth, 80 grit.

**ER-1550 1½" SANDING CLOTH**

50 yards of 1½" wide cloth, 50 grit.

**ER-1580 1½" SANDING CLOTH**

50 yards of 1½" wide cloth, 80 grit.

**N SOLDER PADDLES**

Made of choice hard maple for long-lasting, clog-free service. Boiled in tallow to preserve and lubricate.

**SP-10 STANDARD PADDLE**, 4" x  $1\frac{3}{8}"$  blade.

**SP-20 VALLEY PADDLE**, 5" x 1" round blade.

**SP-30 LONG PADDLE**, 6" x  $1\frac{3}{8}"$  blade.

**SP-40 NARROW PADDLE**, 5" x 1" blade.

**O FRH-22 CURVED PICK HAMMER**

Pick end is bent in arc of a normal blow. Reaches behind reinforcements, edges of roof rails and other difficult spots. Face,  $1\frac{1}{4}"$ . Round point  $\frac{1}{32}"$  R. Length pointed end,  $5\frac{1}{2}"$ .

**P FRH-21 REGULAR PICK HAMMER**

Low-crown point gives weight for perfect balance with low-crown dinging head. Medium reach for general work. Face,  $1\frac{1}{8}"$ . Round point  $\frac{3}{32}"$  R. Length pick end,  $3\frac{3}{4}"$ .

**Q FRH-24 LONG DINGING HAMMER**

A perfectly balanced hammer for light dinging where long reach is necessary. Square face permits dinging in corner of a moulding. Round face,  $1\frac{1}{4}"$ . Square face,  $1\frac{1}{8}"$ . Head, 6" overall.

**R FRH-25 HIGH CROWN FACE HAMMER**

Two high-crowned faces for concave surfaces on doors, rear quarter panels, fenders and hoods. Square face,  $1\frac{1}{8}"$ . Head, 6" overall.

**S FRH-23 LIGHTWEIGHT DINGING HAMMER**

Short reach, lightweight dinging hammer combines low-crown round and square faces. Round face,  $1\frac{1}{4}"$ . Square face,  $1\frac{3}{8}"$ . Overall length of head, 4".

**T FRH-26 SHRINKING HAMMER**

Balanced hammer for light shrinking work in close quarters. Machined serrations on round face. Square face works close to corners. Faces,  $1\frac{1}{8}"$  square,  $1\frac{1}{4}"$  round. Head, 4".

**U FRH-20 SHORT PICK HAMMER**

Blunt point and short reach. For driving up low spots in high-crown panels. Can be used on fenders without removing wheels. Face  $1\frac{1}{8}"$ . Round point  $\frac{1}{32}"$  R. Head lgth. 4".

**V UH-1 MAGNETIC UPHOLSTERER'S HAMMER**

Magnetic tack hammer designed for trimmers in service shops. Head curved exactly right for accurate blows. Magnetic points have a keeper to retain magnetism.

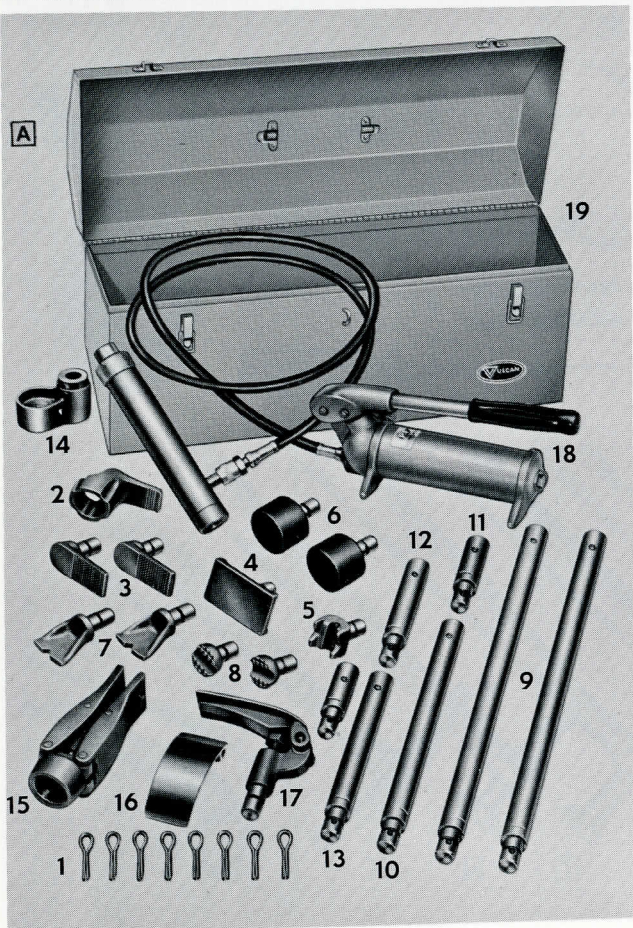
**W PL-157 7" 45° HOG RING PLIERS**

Space limitations and difficult angle positions on newer cars and compacts often require this bent-handle model. Upholstery and seat cover rings are held securely in grooved jaws for maximum safety.

**X PL-147 7" HOG RING PLIERS**

For inserting and closing rings of various shapes used on automotive upholstery and seat covers. Jaws are grooved to hold rings securely to prevent costly slippage and damage to expensive materials.





#### A PF-7B SPEED-MIDGET BODY JACK SET IN MB-17 METAL BOX

##### PF-7 BODY JACK SET without METAL BOX

A four ton work horse giving you controlled power every time. You can push, you can spread, you can pull. Truly, as versatile and complete a Body Jack Set — at a reasonable price — as can be found anywhere. Twenty-three individual tools and eight holding pins provide everything that is required to do just about every job to be done in the automotive body shop. Ample hose length allows placement of the ram in the best working position. The hydraulic power unit develops four tons of pressure, and is designed with an overload safety device to protect parts and equipment. Only 30 strokes are required for full ram extension. All parts are made of highest quality materials for your complete satisfaction.

Item	Stock No.	Qty.	Description
1	SM-7	8	Holding Pins
2	SM-39	1	Jack Body Toe
3	SM-40	2	Ram Extension Toe
4	SM-41	1	Jack Base
5	SM-42	1	V-Notch Cap
6	SM-43	2	Rubber Head
7	SM-44	2	Offset Spread Toe
8	SM-49	2	Ram Cap
9	SM-50	2	20" Extension Tube
10	SM-52	1	12" Extension Tube
11	SM-53	2	3" Extension Tube
12	SM-55	1	5" Extension Tube
13	SM-58	1	8" Extension Tube
14	SM-63	1	Pull Adaptor
15	SM-100	1	Hydraulic Spreader
16	SM-80A	1	Low Crown Spoon
17	SM-80B	1	Adjustable Spoon
18	SM-200	1	Four Ton Jack
19	MB-17	1	Metal Box

#### B J-600 3 TON MASTER SERVICE JACK

Here is a heavy duty bumper jack of proven quality for service stations, car, truck and tractor dealers, repair and body shops. Ideal for service calls because it weighs only 66 lbs. Lifts either end of vehicle quickly and easily allowing access to both wheels. Extra wide, extra strong lifting surface insures safety and eliminates danger of damage to bumper. The lifting jaw zips up to the work without tedious jacking. Instantly that the weight is off, jaw automatically drops away from the work to speed disengaging time. Durable free-action casters. Finish, bright red enamel.

##### SPECIFICATIONS

Lifting Height — Low 5", high 42".

Lifting Weight — 6000 lbs.

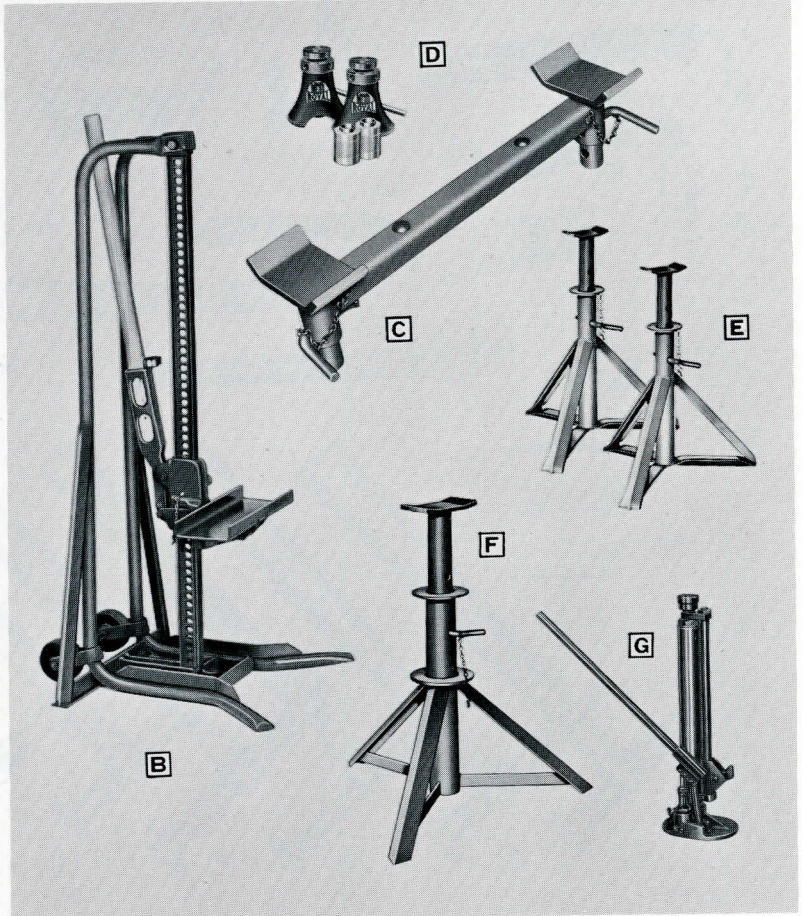
Total Weight — 66 lbs.

#### C J-620 RACK FOR J-600 JACK

An accessory Jack Rack attachment that bolts directly to the lifting pad of J-600 described above, or on other makes of Jacks you may already be using. Adds greater flexibility and width for deep bumpers.

#### D J-400 MECHANIC'S JACK SET

All purpose set for auto mechanics, body and fender shops and others who require small but strong jacks. These mechanical jacks have an amazing lifting power of 1000 lbs. each. Operate efficiently in close and crowded spaces. Heavy base is 2 7/8" in diameter. Drop-forged lifting screw with Acme thread. Lifting height, 3 1/2" to 5 1/2", with extensions 5" min. to 7" maximum. Weight per pair, 4 1/2 lbs.



#### E JS-750 PAIR 2 1/2 TON JACK STANDS

For passenger cars and light trucks, each stand has a capacity of 2 1/2 tons. Made from high quality steel with superior welding and workmanship. Pin type construction for height adjustment is safe, dependable and easy operating. Height adjustment: low, 14" — high, 21". Weight only 8 lbs. each.

#### F JS-760 6 TON JACK STAND

Rugged construction with six ton holding capacity. A pair of these Jacks will safely hold a twelve ton load and release your regular jack equipment for other jobs. The saddle, mounted on the center post, is shaped to more positively locate the load and prevent the tendency of load shifting. The locking pin is permanently fastened to the Jack body by a chain. The tripod base is fabricated from heavy angle iron and full welded construction provides maximum rigidity. The entire unit is finished in rust resisting red lacquer. Height adjustment from 19" to 28". Weight of one Jack is 17 pounds.

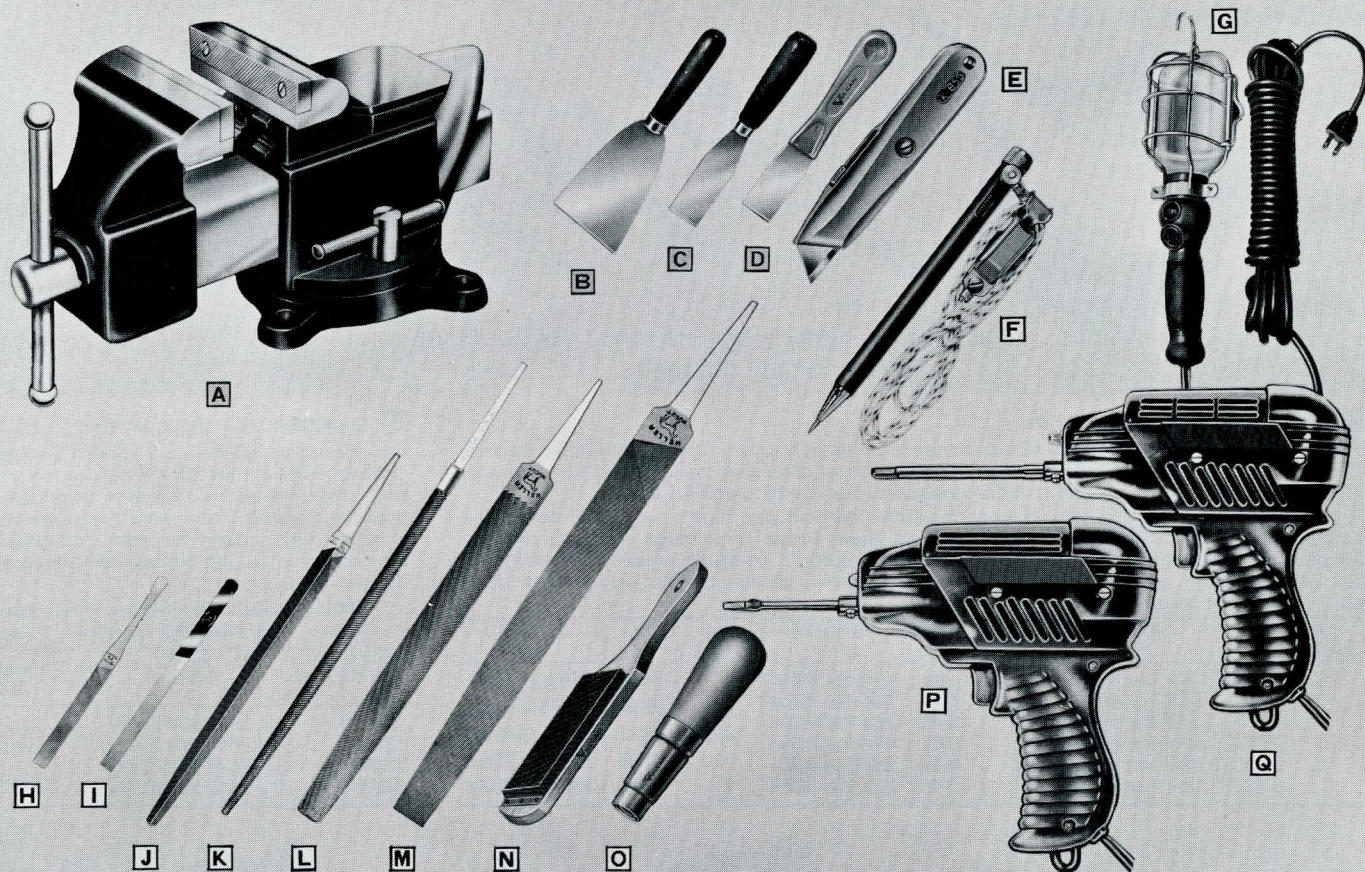
#### G J-170 3 TON HYDRAULIC JACK

Has 3 load application points, top lift-cap, special cable-hook and adjustable lift-hook. Removable handle operates this all-purpose Hydraulic Jack of 3 ton capacity. Release valve conveniently located. Jack can also be used in horizontal position. This is a good general utility jack with an extremely wide range of use. Special cable-hook attachment allows pick up from ground level. Low hook pick up, 5 1/2".

##### Specifications

Height collapsed, 21" Hydraulic lift, 15 1/2"  
Height extended, 36 1/2" Weight, 21 lbs.



**A BENCH VISES**

Made for the mechanic who wants and appreciates the best, Channel jaw beam completely encloses the screw eliminating damage from dirt or shavings. Replaceable heat-treated steel jaw faces, swivel base.

Stock No.	Jaw Width	Jaw Opening	Pipe Capacity
D-43½	3½	4	⅛-1¼
D-44	4	5	⅛-2
D-45	5	6	⅛-2½

**B PK-2 WIDE BLADE PUTTY KNIFE**

Blade is tempered steel, bright finish with beveled edge. Blade, 2¾" wide. Length, 8".

**C PK-1 PUTTY KNIFE**

Semi-flexible bright steel blade 1⅞" wide. Hardwood handle, plated ferrule. 7½" long.

**D PK-3 ALL STEEL PUTTY KNIFE**

Blade is stiff-tempered, 2½" long. Steel handle. Blade width, 1⅞". Length 7½".

**E K-855 UTILITY KNIFE****K-855-1 EXTRA BLADES, Pkg. of 5**

Blade adjusts to three positions for cutting angle and depth. 5 Blades furnished.

**F L-31 ELECTRIC ETCHING PENCIL**

Operates on 6 volt batteries, and 12 volt when connected across half the battery. Complete instructions with each pencil.

**G HEAVY DUTY EXTENSION LIGHTS**

Heavy duty shock-proof handle with 2 outlets. 660W shock-proof safety switch. Plated lamp guard.

Stock No.	Length of Cord	No. Outlets	Approval
EL-225	25 ft.	2	UL
EL-250	50 ft.	2	UL
EL-325	25 ft.		CSA

**H F-5P TUNGSTEN POINT FILE**

For cleaning distributor points, spark plugs, contact points of magnetos, switches, etc. Chisel tip for entering gaps and slots. 5" long.

**I F-5VR VOLTAGE REGULATOR FILE**

Extra thin for voltage regulators, circuit breakers and other electrical contact points. For fine cut and smooth finish. 5" long, .005thk.

**J THREE SQUARE BASTARD FILES**

For filing internal angles and clearing out square corners. Double cut teeth on all sides with fairly sharp corners.

Stock No.	Length	Face Width
F-6T	6	15/32
F-8T	8	5/8
F-10T	10	3/4

**K ROUND BASTARD FILES**

Principally used for filing circular openings or concave surfaces. Tapered slightly toward point. Double-cut tooth design.

Stock No.	Length	Diameter
F-6R	6	7/32
F-8R	8	3/16
F-10R	10	3/8
F-12R	12	1/2

**L HALF ROUND BASTARD FILES**

Rounded on one side flat on the other for use on concave, convex and flat surfaces. Double-cut tooth design on both sides resists tendency to clog.

Stock No.	Length	Width	Thickness
F-6HR	6	19/32	5/32
F-8HR	8	3/4	7/32
F-10HR	10	15/16	9/32
F-12HR	12	1 1/8	11/32

**M MILL BASTARD FILES**

Nucut, wavy tooth design reduces tendency to clog file teeth when cutting non-ferrous or comparatively soft materials. Double cutting action for fast, smooth work.

Stock No.	Length	Width	Thickness
F-6F	6	17/32	7/64
F-8F	8	25/32	9/64
F-10F	10	31/32	11/64
F-12F	12	1 1/32	7/32
F-14F	14	1 1/16	1/4

**N FC-1 FILE CARD**

Designed especially for general cleaning of file teeth. Overall length, 8¾".

**O FILE HANDLES**

Files remain rigid in long-ferrule handles.

Stock No.	Length	Diameter	For Files
FH-2	4½	13/16	6" to 8" long
FH-3	5	13/16	8" to 12" long
FH-4	5½	13/16	12" to 16" long

**P L-698 100 WATT SOLDERING GUN**  
**L-501-1 STANDARD REPLACEMENT TIP**  
**L-501-2 SMALL REPLACEMENT TIP**

100 watt, 115 volt, 60 cycle Instant Heat Soldering Gun. Molded, resilient, shatter-proof nylon case. One piece welded transformer with 2-3 times the life of others. Melts solder in 3½ seconds. Light directs beam to work. One year guarantee.

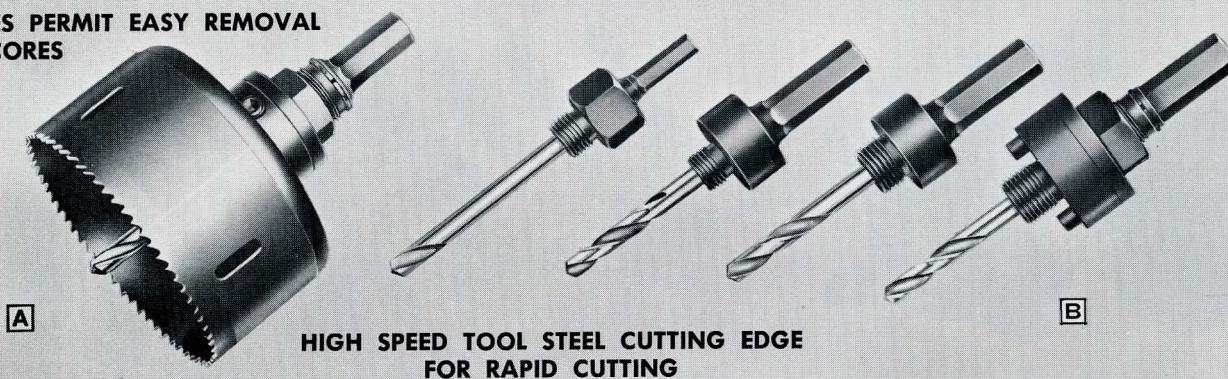
**Q L-998 200 WATT SOLDERING GUN**  
**L-501-1 STANDARD REPLACEMENT TIP**  
**L-501-2 SMALL REPLACEMENT TIP**

200 watt, 115 volt, 60 cycle Instant Heat Soldering Gun. Molded, resilient, shatter-proof nylon case. One piece welded transformer with 2-3 times the life of others. Melts solder in 2½ seconds. Light directs beam to work. One year guarantee.





## HOLES PERMIT EASY REMOVAL OF CORES



**HIGH SPEED TOOL STEEL CUTTING EDGE FOR RAPID CUTTING**

### A HIGH SPEED STEEL HOLE SAWS

Vulcan hole saws are designed to cut accurate holes in machinable materials up through 1" thick. They are particularly suited for cutting large diameter holes when the diameter of the hole, makes it impractical or impossible to use a standard drill.

These hole saws are made with a wear-resistant, fast-cutting, high speed tool steel edge, permanently banded to the chrome vanadium steel blade by a forge welding process. Blade in turn is welded to a tough, resilient steel back to comprise entire unit providing maximum strength with no chance of edge-stripping or shattering. Knock-out slots allow easy removal of cores.

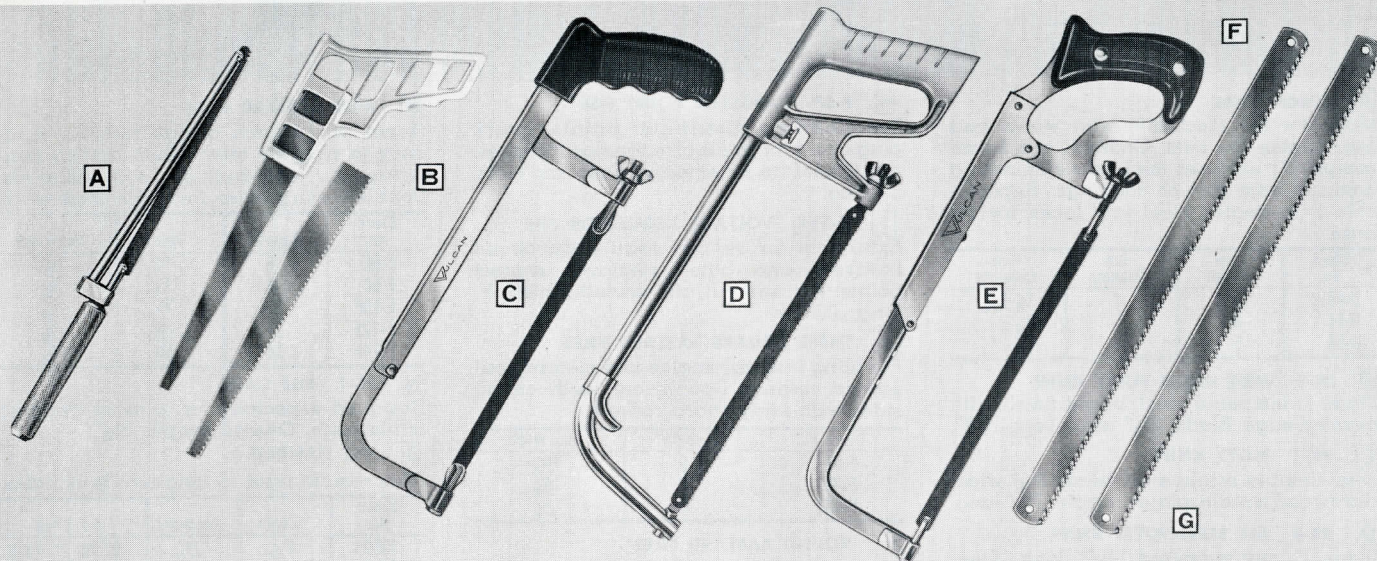
Saw Diameter	Stock No.	Use Mandrel No.	Saw Diameter	Stock No.	Use Mandrel No.	Saw Diameter	Stock No.	Use Mandrel No.
3/4	HS-24	HSM-1 or HSM-2	1 1/4	HS-40	HSM-3 or HSM-4	2	HS-64	HSM-3 or HSM-4
7/8	HS-28	HSM-1 or HSM-2	1 3/8	HS-44	HSM-3 or HSM-4	2 1/8	HS-68	HSM-3 or HSM-4
1 1/8	HS-30	HSM-1 or HSM-2	1 1/2	HS-48	HSM-3 or HSM-4	2 1/4	HS-72	HSM-3 or HSM-4
1	HS-32	HSM-1 or HSM-2	1 5/8	HS-52	HSM-3 or HSM-4	2 3/8	HS-76	HSM-3 or HSM-4
1 1/16	HS-34	HSM-1 or HSM-2	1 3/4	HS-56	HSM-3 or HSM-4	2 1/2	HS-80	HSM-3 or HSM-4
1 1/8	HS-36	HSM-1 or HSM-2	1 7/8	HS-60	HSM-3 or HSM-4			

### B MANDRELS FOR HOLE SAWS

Use mandrels HSM-1 and HSM-3 for light cutting, HSM-2 and HSM-4 for heavy cutting. This pin-drive mandrel provides a positive floating drive which assures uniform cutting, makes for easy removal of the saw after heavy cutting as it does not tighten up in use.

#### HSD-1 Carbon Pilot Drill for HSM-1 only HSD-2 H. S. Pilot Drill for HSM-2, 3 and 4

Mandrel Stock No.	For Saws Diam.	Use On Hole Saws No.	Shank Size	Thread Size
HSM-1	5/8 - 1 1/8	HS-24 thru HS-36	1/4	1/2 - 20
HSM-2	5/8 - 1 1/8	HS-24 thru HS-36	1/2	1/2 - 20
HSM-3	1 1/4 - 2 1/2	HS-40 thru HS-80	1/2	5/8 - 18
HSM-4	1 1/4 - 2 1/2	HS-40 thru HS-80	1/2	5/8 - 18



### A HS-1 MIDGET SAW with Blade HS-1B 6 Inch Replacement Blade

A rigid, compact, all steel saw with knurled handle. Center of handle is in line with the blade and prevents binding. Works in 1 1/4" dia. hole.

### B HS-2 KEY HOLE SAW with Blade HS-2B 7 Inch Replacement Blade

Gets into places where ordinary hack saw frame can't be used. Hand-fitting, pistol-grip handle. Cuts nails, metal lath, sheet metal, tubing, wood, plaster board, stucco, BX cable and conduit. Length, 10".

### C HS-3 HACK SAW FRAME with 10" Blade HS-2B 7 Inch Replacement Blade

Solid steel, nickel-plated frame is built for years of rugged service. Quick adjustment for 8", 10" or 12" blades. Depth of cut, 3 3/4". Durable pistol grip is designed for comfort and perfect balance.

### D HS-4 TUBULAR HACK SAW FRAME with 10" Blade

Frame is made of heavy gauge 5/8" diameter tubular steel, highly polished and plated for protection against rust. Die cast handle, finished in gray enamel, has comfortable hand grip and guard to protect knuckles. Frame has handy, adjustable thumb hook for most comfortable position for user. Frame adjusts from 10" to 12". Depth of cut, 4". Overall length, 17".

### E HS-5 HACK SAW FRAME with 10" Blade

Black "Tenite" pistol-grip handle is unbreakable. Frame adjusts for 8", 10" or 12" blades. Durable steel frame is well buffed, polished and nickel-plated. Throat depth is 3 3/4". Furnished with 10" blade.

### F HIGH SPEED HACK SAW BLADES

Hard, high speed cutting teeth are wear resistant and give remarkable service when cutting harder alloy steels. Extreme flexibility eliminates high cost of breakage.

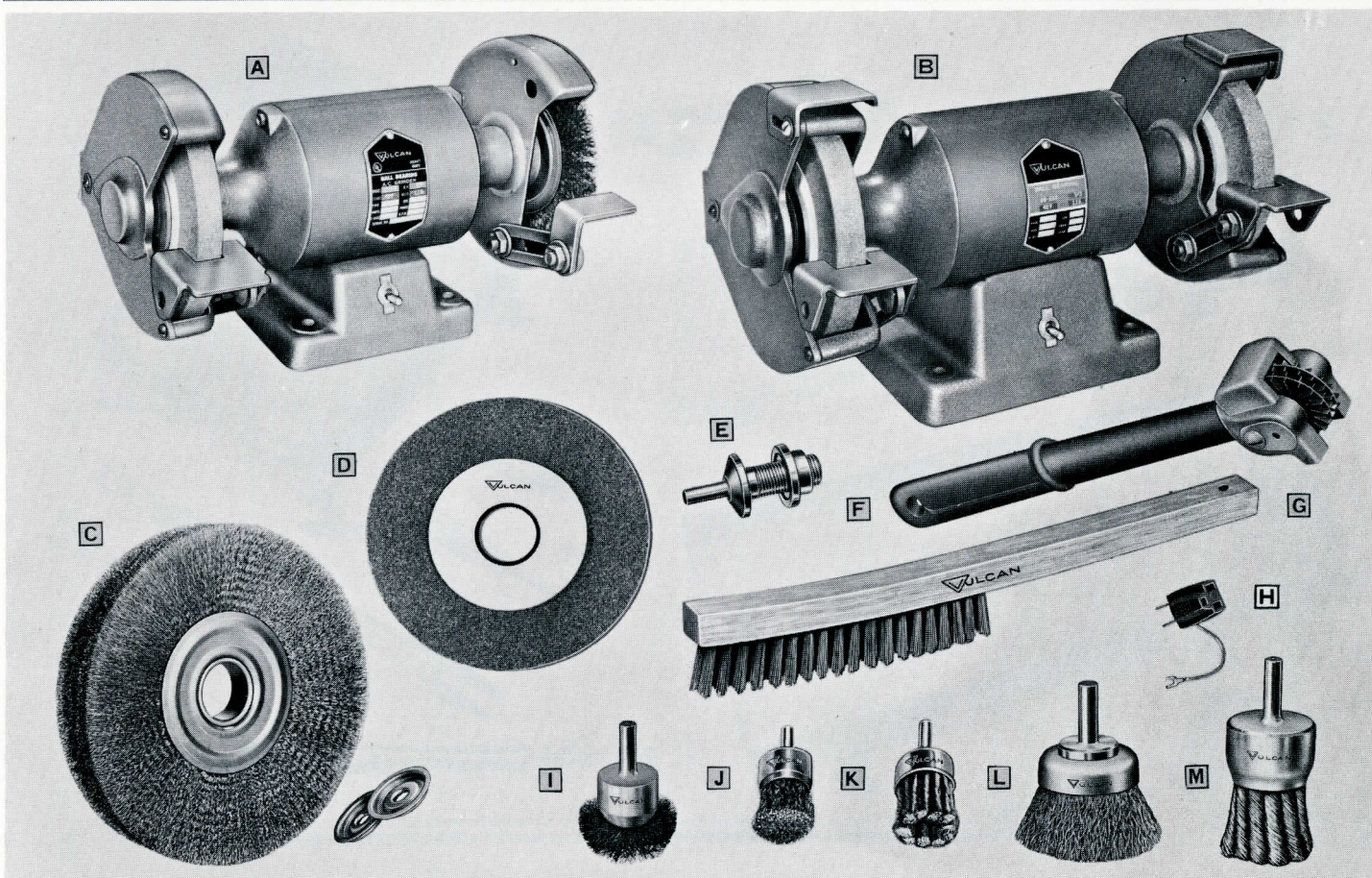
Length	Width	Thick	Stock No.		
			Teeth per Inch		
			18	24	32
10	1 1/2	.025	HBS-1018	HBS-1024	HBS-1032
12	1 1/2	.025	HBS-1218	HBS-1224	HBS-1232

### G ALLOY STEEL HACK SAW BLADES

Excellent, general purpose, unbreakable saw made of special alloy steel.

Length	Width	Thick	Stock No.		
			Teeth per Inch		
			18	24	32
10	1 1/2	.025	HB-1018	HB-1024	HB-1032
12	1 1/2	.025	HB-1218	HB-1224	HB-1232



**BENCH GRINDERS**

**MOTORS**-Precision-built motors are completely enclosed making it impossible for grease, dirt or foreign matter to enter. **BEARINGS**-Smooth, long operating life is assured through oversized labyrinth grease sealed ball bearings.

**BASES**-Bolt holes are provided for permanent mounting of rugged, cast iron bases. Rubber feet provide solid, vibration free mounting.

**GUARDS**-Extra wide, enclosed type wheel guards. No. BG-33 is equipped with rear outlet for connection to exhaust system.

**TOOL RESTS**-Sturdy tool rests are adjustable 0° to 60° for all types of work. Ample takeup to compensate for wheel wear.

**BELL TYPE CONSTRUCTION**-Allows grinding of long pieces.

**WIRING**-Grounding type 3-wire cord and 3-prong plug.

**[A] BG-25 1/4 H. P. BENCH GRINDER**

Furnished with 1, 40 grit 6" x 3/8" grinding wheel and 1, 6" wire wheel brush.

**[B] BG-33 1/3 H. P. BENCH GRINDER**

Motor has split phase start. Furnished with 1, 6" x 3/4" grinding wheel and 1, 6" wire wheel brush.

**SPECIFICATIONS**

Stock No.	BG-25	BG-33
Horse Power	1/4	1/3
Cycle	50/60	50/60
Phase	Single	Single
Voltage	115	115
Amperes	3.1	4.0
Synchronous Speed	3600	3600
Spindle Height	4 1/8"	5"
Overall Height	7 1/2"	8 1/2"
Wheel Diameter	6"	6"
Wheel Face	1/2" or 3/4"	3/4"
Arbor Diameter	1/2"	1/2"

**[C] WIRE WHEEL BRUSHES**

Wire bristles are crimped to prevent bending or breakage. Secure binding helps prevent bristles from flying loose. Includes adaptor plates for arbor hole.

Stock No.	Diameter	Face Width	Arbor Hole	Wire Size
WB-45	4	1/2	1/2	.014
WB-65	6	1 1/2	1/2	.014
WB-65H	6	1 1/8	1/2	.014
WB-76	7	7/8	5/8	.014
WB-86	8	1 1/4	5/8	.014

**[D] GRINDING WHEELS**

Fully vitrified, aluminum-oxide abrasive. Fine balance assures smooth operation and fast cutting action. Wheels are furnished with bushings to fit your arbor size.

Stock No.	Diameter	Face Width	Arbor Hole	Grade
GW-416C	4	1/2	1/2	Coarse
GW-416M	4	1/2	1/2	Medium
GW-616C	6	1 1/2	1/2, 5/8, 3/4, 1	Coarse
GW-616M	6	1 1/2	1/2, 5/8, 3/4, 1	Medium
GW-624C	6	3/4	1/2, 5/8, 3/4, 1	Coarse
GW-624M	6	3/4	1/2, 5/8, 3/4, 1	Medium
GW-632C	6	1	1/2, 5/8, 3/4, 1	Coarse
GW-632M	6	1	1/2, 5/8, 3/4, 1	Medium
GW-732C	7	1	1/2, 5/8, 3/4, 1	Coarse
GW-732M	7	1	1/2, 5/8, 3/4, 1	Medium

**[E] WBA-1 WIRE BRUSH ADAPTOR**

Has 1/4" diameter shank with 1/2"-20 thread arbor for using brushes and wheels up to 4" dia. with electric drills for light work.

**[F] WD-1 HOODED WHEEL DRESSER**

**WD-1-1 REPLACEMENT CUTTER SET**  
Dressing wheels is made fast, easy and safe with this hooded model. Milled teeth, in heat-treated and hardened cutters, remove glaze and true up wheels up to 10" diameter with 2" face.

**[G] WBH-1 WIRE HAND BRUSH**

Bristles of high quality stiff wire, with plenty of spring, are anchored in hard wood handles. Overall length, 14".

**[H] EP-32 3 PRONG ADAPTOR**

Nearly all Power Tools are equipped with 3 pronged plugs. This handy tool adapts these plugs to conventional outlets.

**[I] WBF-1 FLARED END WIRE BRUSH**

Circular style flared end brush. This shape is useful for cleaning sides, bottoms and corners of confined areas. Brush diameter, 1 1/2". Wire size .020". Shank, 1/4" diameter.

**[J] WBC-2 CARBON SOLID-WIRE BRUSH**

Popular style for getting at openings and corners where space is limited. Recommended for easy removal of carbon deposits in cylinder, valve seats and combustion chambers. 1/4" shank, 1" dia. face.

**[K] WBC-4 CARBON TWISTED-WIRE BRUSH**

A very tough, fast-cutting brush. Hollow center design lends flexibility. Invaluable for removal of carbon, scale, rust, paint and general parts cleaning. .020 wire, dia., 1 1/4". Shank 1/4" x 1".

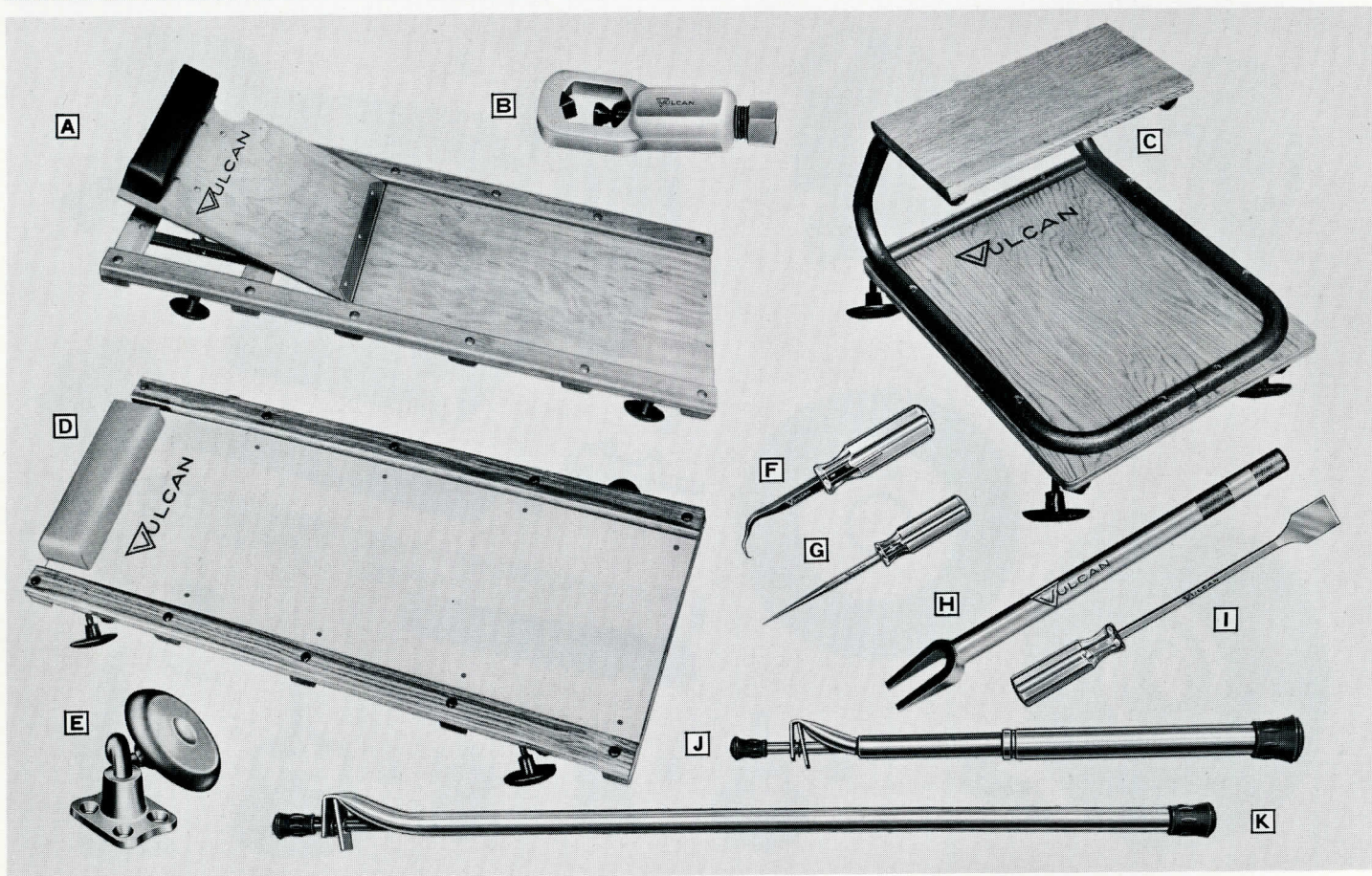
**[L] WBC-1 HOLLOW-END WIRE BRUSH**

Brush diameter of 1 3/4" and hollow end design makes this style one of the most popular for general use, 1/4" shank. Useful on tire and rim work.

**[M] WBC-3 TWISTED-TUFT WIRE BRUSH**

Twisted knot-type end brush. Wire is twisted in cable-fashion knots of uniform size and length. Quickly removes heavy deposits. 3/4" diameter with 1/4" shank.





**A CR-2 CREEPER WITH 3" WHEELS  
AND ADJUSTABLE HEAD REST  
CR-2-2 HEAD REST PILLOW ONLY  
CR-2-3 HEAD REST COMPLETE**

Full, standard size creeper with adjustable easy-rest head support. Perfect comfort can be attained by using one of its four position adjustments. Made of resilient plywood bolted to oak frame completely finished with clear varnish for easy cleaning. Head rest is covered in top grade vinyl plastic that resists grease and solvents of all kinds. Overall length, 36".

**B NS-1 NUT SPLITTER  
NS-1-3 REPLACEMENT CUTTER BIT**

This small and compact tool, only 4 3/4" long, will split nuts up to 7/8" across flats. A few turns with any 3/4" hand wrench will split the nut for easy removal. The angle of the body allows the mechanic to get in hard-to-reach places. Especially handy on shock absorber stud-end nuts.

**C CR-3 BRAKE STOOL CREEPER**

Ideal for low work of all kinds such as brake service, wheel balancing and alignment work, tire service and body and fender work. Made of strong, tough plywood bolted to tubular steel frame. Rolls easily on four 3-inch ball bearing casters. Large lower shelf area holds tools.

**D CR-1 CREEPER WITH 3" WHEELS**

This economy, low-priced model is light in weight yet sturdily constructed. Made of tough, resilient plywood. Built to take plenty of hard knocks. Body is finished with durable clear varnish which is easy to clean. Comfortable 3-inch head rest is covered with vinyl plastic which cannot be harmed by acids, grease, gasoline or alcohol. Equipped with 3" casters.

**E CR-2-1 3" CREEPER CASTERS**

Ball bearings are located at each end of the axle for free easy rolling action. Extra strong bracket for heavy duty work. Easily attached to any flat surface. 4 per box.

**F CK-1 COTTER KEY PULLER**

Pulls cotter keys and snap rings. Also useful for pulling out hog rings and for many cleaning and picking jobs. Length, 7".

**G SA-4 SCRATCH AWL**

Hard, sharp point for piercing various materials and scribing or tracing patterns. Overall length, 8 1/2".

**H TRS-1 TIE ROD SEPARATOR**

This is a powerful Tie Rod Separating Tool with tapered prongs. Drop forged from selected Alloy Steel and carefully heat-treated for maximum life. Opening is 2 1/2" and overall length is 16".

**I CS-8 LONG SCRAPER**

Tempered edge is 1" wide. Drop-forged from alloy steel. Shank is solidly anchored in comfortable ribbed plastic handle. Length overall, 12".

**J BT-109 BRAKE PEDAL JACK**

An essential tool for use when bleeding brakes and during wheel alignment adjustments. Keeps steady brake pedal pressure at all times. Adjusts from 15 1/2" to 26 1/4".

**K MT-1 HOOD JACK**

Push rod slides out to any desired length from 28" to 52" and locks positively in that position. Friction latch quickly releases to drop hood. Rubber protection tips.



**FC-11 FENDER COVER**

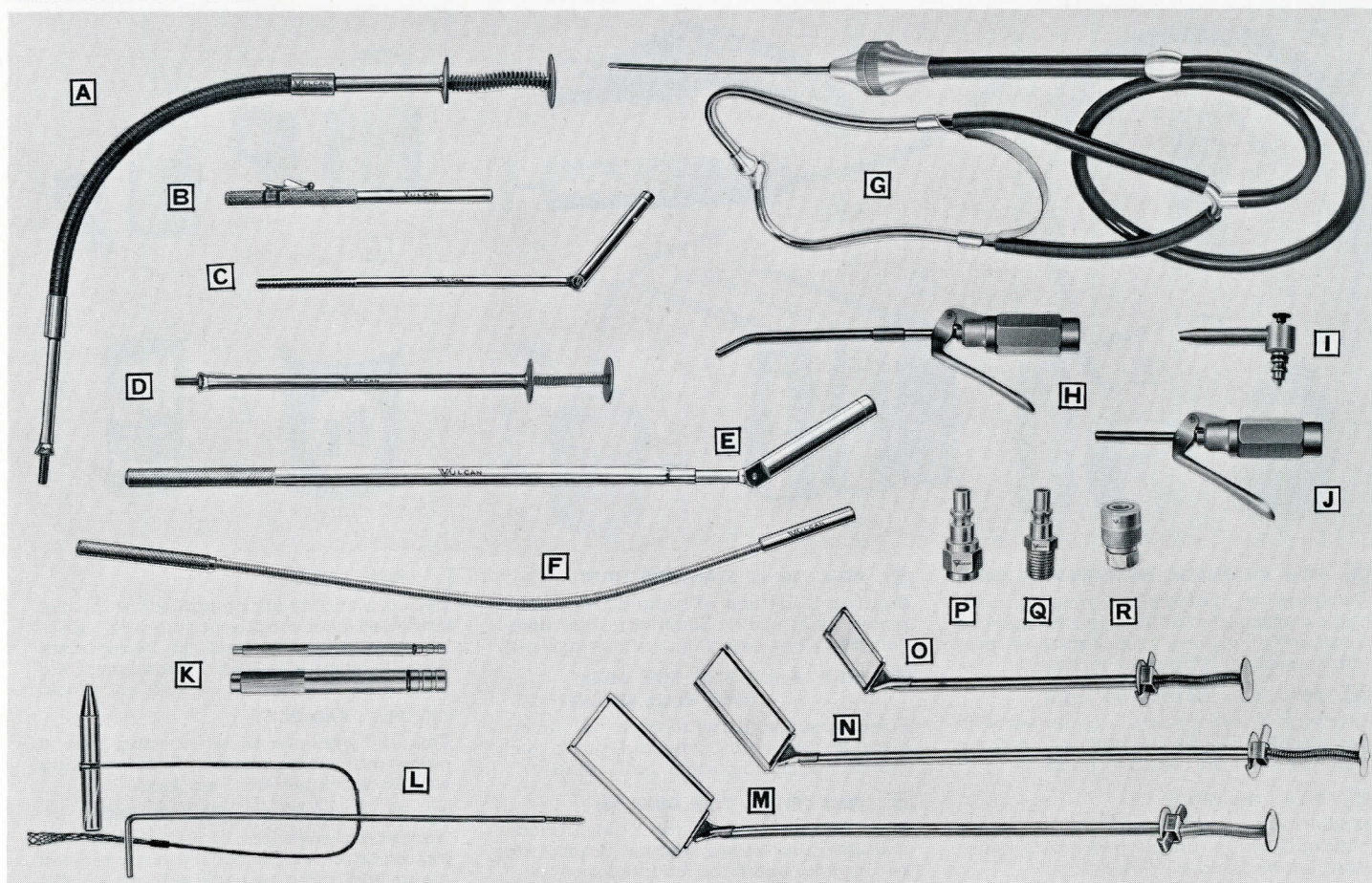
Made of top grade red vinyl plastic with stitched black binding. The reverse side is non-skid foam rubber padding. When the Fender Cover is folded over the fender of a car a handy tool rest is formed to keep your tools from rolling. The size is 27" wide and 40" long.



**SC-11 SEAT COVER**

Made of top grade red vinyl plastic and a rubberized back. This Seat Cover stays put! Attractively bound with black vinyl tape. Folds compactly without cracking in any weather. Size is 27" by 54".



**A PTF-15 FLEXIBLE MECHANICAL FINGER**

Will operate freely even when the flexible section is bent as much as 90°, or in the shape of an "S". Will not spring back. The 15" reach allows you to retrieve small parts and wires in very restricted areas.

**B PTM-6 6" MAGNETIC PICK-UP TOOL**

A very handy 6" magnetic tool that has a powerful Alnico magnet in the tip. The shaft is light weight polished aluminum. Knurled grip includes pocket clip.

**C PTM-9 9" MAGNETIC PICK-UP TOOL**

The swivel head will adjust to any position within a 240° arc. This head contains a powerful Alnico magnet capable of lifting many times its own weight.

**D PTR-10 RIGID MECHANICAL FINGER**

This is the perfect tool for picking up nuts, bolts, washers, and other small parts that have been dropped. The jaws give a firm and positive grip. Length, 10".

**E PTM-17 17" TELESCOPING MAGNETIC PICK-UP TOOL**

A telescoping tool that is 17" long when closed, and extends to 26½" when fully opened. Swivel head arcs 240°. Over 3 pounds pulling force is generated by the powerful Alnico magnet.

**F PTM-18F 18" FLEXIBLE MAGNETIC PICK-UP TOOL**

Has stiffening rod for use as a rigid tool which quickly unscrews for removal, for a completely flexible pick-up tool. Removeable rubber sleeve prevents magnet from being attracted to sides of recesses.

**G TU-13 STETHOSCOPE****TU-13-11 LONG PROBE ONLY, 12" long**

An amplifying sound diaphragm located in the forward chamber magnifies the sound of trouble and helps you pin point the exact location of faulty valve tappets, worn or damaged bearings, body squeaks and other trouble spots. Metal ear tips are used for longer, trouble-free service. Shaft is shockproof plastic. Furnished with 6" probe.

**H BG-4 BLOW GUN**

Finest quality Blow Gun with 4" detachable nozzle. The valve is positive, easy to use and may be controlled from a light "dusting" stream to a full blast. Nozzle is bent at 45°. Using ¼" IPT fitting.

**I BG-2 BLOW GUN**

A very popular Blow Gun because of its top quality design and construction features. The quick coupling stem promptly releases air hose for other jobs. Use with QC-1 at "R".

**J BG-3 BLOW GUN**

The same fine quality design and construction as BG-4 described at "H", the only difference being that this Gun has a one piece 2" long nozzle. The all steel body is tapped with ¼" pipe thread.

**K GA-3 HYDRAULIC OIL PUNCH SET****GA-3-3 LARGE "O" RINGS ONLY, Pkg of 5**  
**GA-3-4 SMALL "O" RINGS ONLY, Pkg of 5**

Set of two tools to restore full oil pressure to overhead oil passages in seconds without need for engine tear down or any other special "by-pass" tools and equipment. Use knurled end to remove burrs. Fill hole with oil and insert tool. A sharp hammer blow will free object blocking oil passage.

**G****E****O****N****M****L****G****H****I****J****K****L****M****N****O****P****Q****R****L GA-2 UPPER REAR MAIN SEAL KIT**

A great time and money saver. This profit making set will remove the old seal and install the new seal in only 1½ hours.

**M N O INSPECTION MIRRORS**

One hand Inspection Mirrors for automotive aircraft, electronic, TV repair and other applications. Full 90° swing tilt with easy thumb operated lever that locks mirror at desired angle. Tripping the lock lever returns the mirror to the straight position. For easy operation, do not hold like a hypodermic needle. Grasp with palm of hand on handle knob and use forefinger opposite the lock lever. Thumb operates the lock.

Code	Stock No.	O.A. Length	Mirror Size		Replace Glass No.
			Wide	Long	
M	M-3	17¼	2⅞	3¼	M-3-1
N	M-2	16½	1⅞	2⅞	M-2-1
O	M-1	11	1¼	1½	M-1-1

**P Q AIR HOSE CONNECTORS**

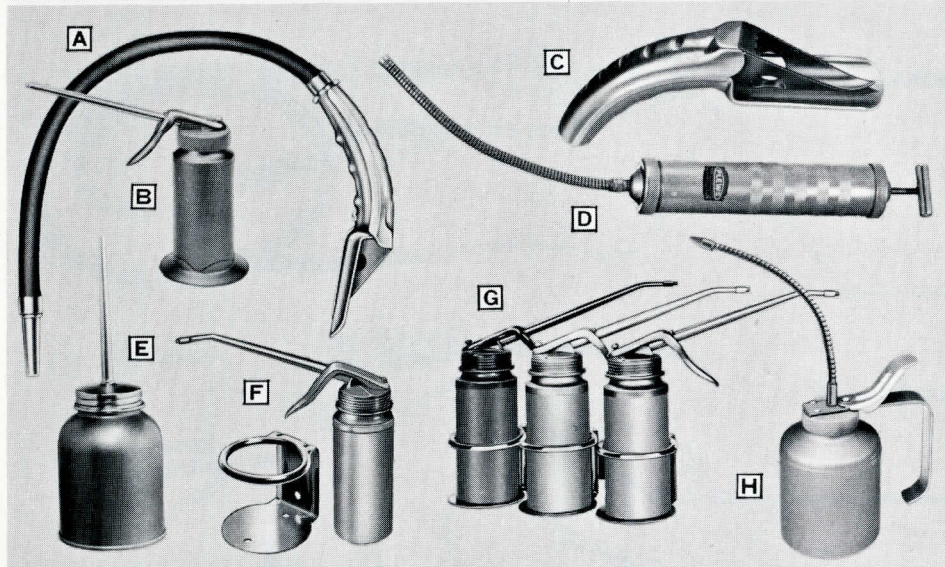
Male and female ¼" pipe thread Air Hose Connectors. These units are both interchangeable with "Aro" and "Dill" equipment. Use both with QC-1 described at "R".

Code	Stock No.	O.A. Length	Thread Size	Description
P	HC-2	1½	¼ IPT	Female Thread
Q	HC-1	1⅝	¼ IPT	Male Thread

**R QC-1 QUICK COUPLER**

A Quick Coupler with ¼" female pipe thread to attach directly to your air line for rapid interchangeability of the various attachments required in garages and service stations. Particularly useful in conjunction with BG-2 Blow Gun described at "I" and HC-1 and HC-2 described at "R" and "Q" above.



**A PO-7 AUTOMATIC TRANSMISSION FILLER**

Designed for opening and pouring automatic transmission fluids from one and five quart cans. Pinching hose stops flow, prevents spilling. 16" neoprene hose.

**B PO-1 6 oz. PISTOL TYPE OILER**

Drawn, leak-proof body is equipped with detachable base. Fixed spout with detachable tip. Powerful, positive pump.

**C PO-6 OIL SPOUT**

Made of high quality steel with hard, sharp cutting blade to quickly and easily penetrate top of oil cans. Plated finish.

**D PO-8 SUCTION GUN**

Vinyl plastic flexible hose makes it easy to use in hard-to-reach places. Capacity, 1½ pints. Handles all oils and solvents.

**E PO-4 10 oz. STANDARD OILER**

Built for a lifetime of rugged use. Nickel plated steel spout. Seamless steel body. Polypropylene cap is impervious to all oils.

**F PO-2 6 oz. PISTOL TYPE OILER WITH WALL BRACKET**

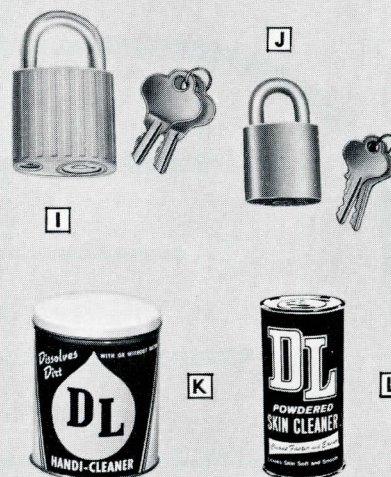
Fixed spout with detachable tip. Drawn body is leak-proof. Powerful pump with bronze spring and steel ball valve.

**G PO-3 PISTOL TYPE OILER SET**

Save time looking for the right lubricant with this color-keyed oiler set. Bracket can be used on bench or mounted on wall.

**H PO-5 PUMP OILER FLEXIBLE SPOUT**

¾ pint capacity, drawn steel, leak-proof body. Comfortable handle, powerful pump and flexible spout.

**I PL-2 PADLOCK**

Here is a mighty strong padlock with case hardened steel shackle having a ¾" opening capacity. The case is heavy duty brass finished with a thick cadmium plate. Two brass keys furnished with each lock.

**J PL-1 PADLOCK**

This 1½" padlock is self locking with a heavy duty spring shackle. Secure locking with 5 disc tumblers. Two keys.

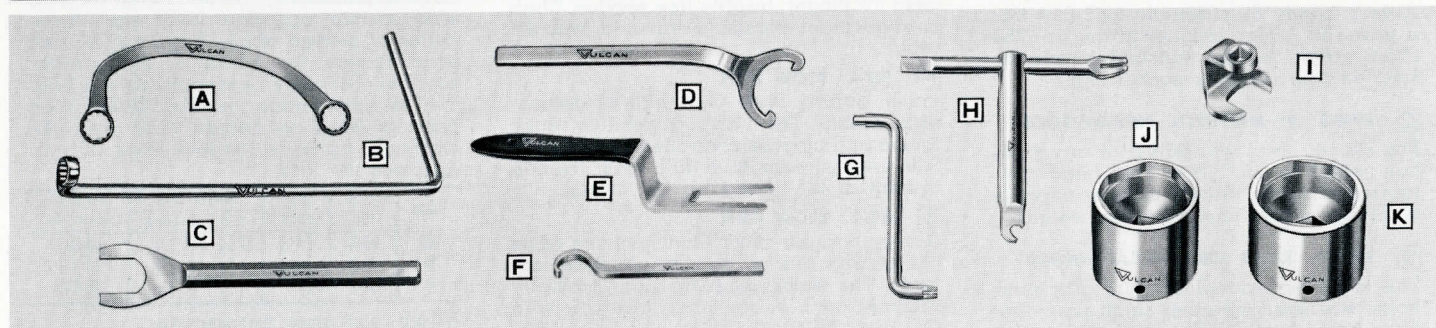
**K DL-14 14 OZ. DL HAND CLEANER**

Handy, slip cover can is just right for taking along on service calls. A homogenized cream that may be used with or without water.

**L DL-10 10 OZ. DL HAND POWDER**

Can be used in hot or cold water. Rinses easily leaving skin soft and smooth.

## SPECIAL PURPOSE TOOLS FOR CHRYSLER CARS and TRUCKS DESIGNED FOR EFFICIENT SERVICE

**A 1960 HALF MOON BOX WR, ⅝"-5/8"**

For starter and manifold nuts on Chrysler built cars. Box openings are 12 point.

**B TU-716 ½" DISTRIBUTOR WRENCH**

12 inch length clears distributor wires with air filter removed. Double hex opening.

**C BT-100 BRAKE ANCHOR TOOL**

Horseshoe lock removing tool for all Chrysler built cars.

**D BT-105 CHRYSLER HAND BRAKE TOOL**

Services all Chrysler product hand brakes from 1950 to present. Wrench grips splines of the adjusting nut positively.

**E FR-10 CHRYSLER DOOR HANDLE TOOL**

Releases spring clip on late model Chrysler makes. Raised edge of the tool engages the spring retainers.

**F BT-104 CHRYSLER BRAKE TOOL**

Because of the hook design, this tool will make fast work of setting the splined adjusting nut on all Chrysler hand brakes. It is not necessary to slide wrench over top.

**G TU-2 VOLTAGE REGULATOR TOOL**

The identical adjusting tool is on either end of this tool. However, one end is set at 90° opposite the plane of the other end so that complete 360° adjustment can be made.

**H TU-3 DISTRIBUTOR POINT TOOL**

For aligning distributor points on Chrysler products. Fits Delco and Autolite.

**I WA-46E 1⅞" CASTER-CAMBER WR.**

The 1⅞" opening fits Chrysler and Hudson. Uses ½" square drive handles.

**J WAH-461 1⅝" BALL JOINT SOCKET**

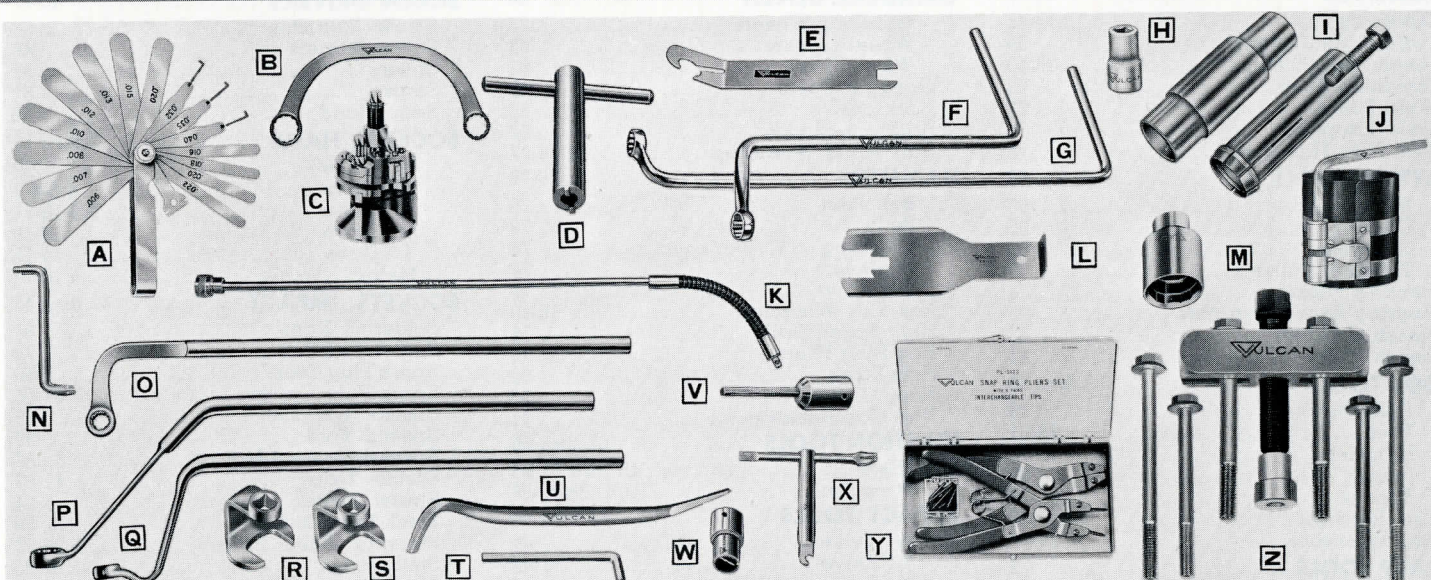
For removing and installing the ball joints from the upper and lower "A" frame on Plymouth and Dodge. ¾" square drive.

**K WAH-468 2⅞" BALL JOINT SOCKET**

For removing and installing the suspension ball joints on Chrysler and DeSoto cars. Socket has ¾" square drive.



# SPECIAL PURPOSE TOOLS FOR GENERAL MOTORS VEHICLES DESIGNED FOR UTMOST EFFICIENCY

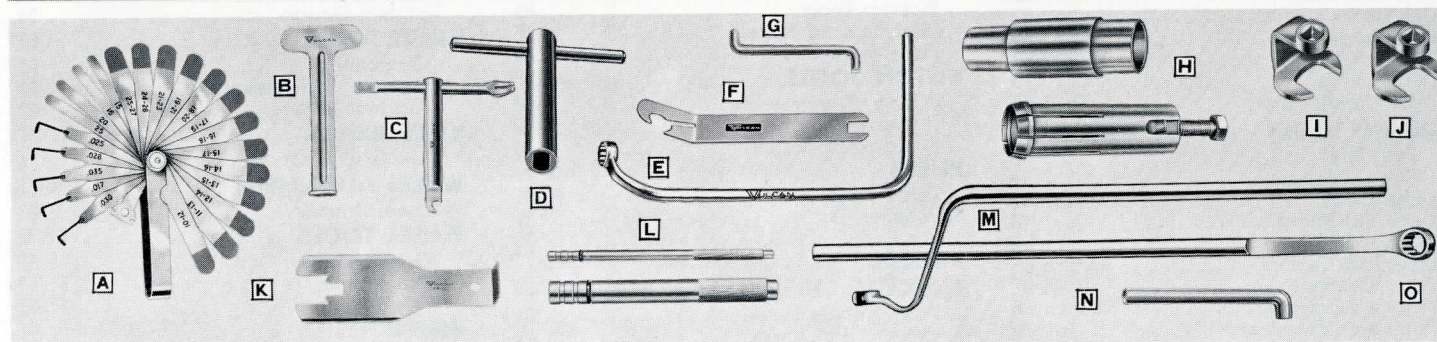


- A FG-816 CHEVROLET GAUGE**  
16 of the required blade sizes for Chevy.
- B 1961 HALF MOON BOX WR. 5/8"-3/4"**  
For starter nuts on Chevrolets, 7 1/2" long.
- C RR-3 CYLINDER RIDGE REAMER**  
For Chevy engines with slant head pistons.
- D TU-20 CHEVROLET DISTRIBUTOR TOOL**  
Pronged socket for Chevrolet distributors.
- E FR-11 DOOR HANDLE TOOL**  
Removes all GM door handle clips quickly.
- F TU-818 9/16" DISTRIBUTOR WRENCH**  
Specially designed for Buick and Chevy.
- G TU-618 9/16" DISTRIBUTOR WRENCH**  
Special 5/16" opening for Pontiac and Olds.
- H B-409 9/32" SQUARE 3/8" DR. SOCKET**  
3/32" square opening for 1/8" drain plugs.
- I PU-3 TRANSMISSION BUSHING PULLER**  
Speeds work on Chevy. trans. See pg. 76.

- J RC-3 MASTER RING COMPRESSOR**  
3 1/2" high compression band. Takes all rings at once. Use upside down on late Chevy.
- K MFD-1 FLEXIBLE DRIVER, 1/4" DRIVE**  
For use with MHB-4 at "V" & MSD-1 at "W".
- L FR-12 DOOR HANDLE TOOL**  
The best tool for GM. Clips do not fly off.
- M B-3234 2-IN-1 SOCKET, 3/8" DRIVE**  
Double openings of 1" and 1 1/8". See pg. 6.
- N TU-2 VOLTAGE REGULATOR TOOL**  
For adjustment of most voltage regulators.
- O WA-122 11/16" CASTER-CAMBER WR.**  
For Buick Special front end adjustment.
- P WA-128 7/8" CASTER-CAMBER WRENCH**  
For Buick, Olds. and Cadillac. Length, 18".
- Q WA-124 3/4" CASTER-CAMBER WRENCH**  
For adjustments of Pontiac caster-camber.
- R WA-40E 1-1/4" CASTER-CAMBER WR.**  
1 1/4" opening for Pontiac adjustments.

- S WA-44E 1-3/8" CASTER-CAMBER WR.**  
1 3/8" opening for Cadillac and Oldsmobile.
- T HWL-16 1/4" HEX LONG KEY WRENCH**  
Caster-camber 1/4" set screw on most GM cars.
- U BT-103 CHEVROLET BRAKE TOOL**  
Short, 6 3/4" length for clearing obstructions.
- V MBH-4 1/8" HEX ADAPTOR, 1/4" DRIVE**  
GM dist. and carb. Use with MFD-1 at "K".
- W MSD-1 SCR. DRIVER ADAPTOR, 1/4" DR.**  
For GM carburetors. Use with MFD-1 at "K".
- X TU-3 DISTRIBUTOR POINT TOOL**  
For aligning Delco & Autolite dist. points.
- Y PL-5125 SNAP RING PLIER SET**  
Particularly useful for GM transmission and power steering work. See pg. 50.
- Z GP-20 STEERING WHEEL PULLER**  
The floating swivel is recessed to prevent damage to the spring tip connected to horn wires on Buick and Cadillac. See pg. 76.

# SPECIAL PURPOSE TOOLS FOR ALL FORD CARS and TRUCKS DESIGNED FOR SPEED and ACCURACY



- A FG-723 FORD GAUGE**  
13 go-nogo blades, 9 ignition and spark plug blades and electrode bender for Ford.
- B TU-1 FORD DISTRIBUTOR TOOL**  
Adjusts vacuum control spring tension.
- C TU-3 DISTRIBUTOR POINT TOOL**  
Especially for all Ford products. Aligns ignition points on Delco and Autolite distributors.
- D TU-21 CARBURETOR JET WRENCH**  
Correct opening for Ford carburetor jets.
- E TU-916 1/2" DISTRIBUTOR WRENCH**  
12 pt. opening. For Ford, Lincoln, Mercury.

- F FR-11 DOOR HANDLE TOOL**  
The square slotted end pushes the clip from Ford door handles.
- G TU-4 OFFSET DISTRIBUTOR SCREW DR.**  
For Ford V-8 ignition point clamp screws.
- H PU-1 TRANSMISSION BUSHING PULLER**  
Falcon, Comet. Page. 76 for description.
- PU-2 TRANSMISSION BUSHING PULLER**  
1957-64 Ford with large transmission. 1949-64 Lincoln. 1955-64 Mercury.
- PU-3 TRANSMISSION BUSHING PULLER**  
1949-64 Ford with small transmission. 1949-54 Mercury. Also for Chevrolet.
- I WA-42E 1-5/16" CASTER-CAMBER WR.**  
1 5/16" opening with 1/2" sq. drive for Fords.

- J WA-48E 1-1/2" CASTER-CAMBER WR.**  
1 1/2" opening with 1/2" sq. dr. for '52 Fords.
- K FR-12 DOOR HANDLE TOOL**  
Best tool for Ford. Clips do not fly off.
- L GA-3 HYDRAULIC OIL PUNCH SET**  
For freeing blocked oil passages. See pg. 85.
- M WA-124 3/4" CASTER-CAMBER WRENCH**  
12 pt. 3/4" opening for Ford, Mercury. 18 3/8".
- N TU-5 FORD VOLTAGE REGULATOR TOOL**  
For adjusting voltage regulator on all Fords.
- O WA-224 3/4" CASTER-CAMBER WRENCH**  
For adjusting caster-camber on ball joint suspensions. Fords prior to 1958.



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# SOCKET AND WRENCH OPENING SPECIFICATIONS

# CONVERTING MILLIMETERS INTO INCHES

Nominal Wrench Opening	BOLT OR SCREW DIAMETERS							
	For NUTS, Hex and Square				For BOLTS, Hex and Square			
	Finished	Regular	Heavy	Mach. Sc.	Regular	Heavy	Lag (Sq.)	Set (Sq.)
5/32	...	...	...	0, 1	...	...	...	...
3/16	...	...	...	2, 3	...	...	...	10
1/4	...	...	...	4	...	...	...	12
5/16	...	...	...	...	...	...	10	1/4
3/8	...	...	...	5, 6	...	...	...	3/8
7/16	...	...	...	8	...	...	1/4	...
1/2	...	...	...	10	1/4	...	...	...
5/8	1/4	1/4	...	12, 1/4	1/4	...	3/8	3/8
3/4	5/16	5/16	1/4	...	3/8	...	1/2	1/2
7/8	3/8	3/8	3/8	...	1/2	...	3/4	3/4
1 1/16	7/16	...	3/8	...	...	...	...	...
1 1/8	1/2	1/2	1/2	...	1/2	...	1/2	1/2
1 1/4	3/4	3/4	3/4	...	3/4	...	3/4	3/4
1 1/2	7/8	7/8	7/8	...	7/8	...	7/8	7/8
1 3/4	1 1/8	1 1/8	1 1/8	...	1 1/8	...	1 1/8	1 1/8
2	1 1/2	1 1/2	1 1/2	...	1 1/2	...	1 1/2	1 1/2
2 1/8	1 3/4	1 3/4	1 3/4	...	1 3/4	...	1 3/4	1 3/4
2 1/4	2	2	2	...	2	...	2	2
2 3/8	2 1/4	2 1/4	2 1/4	...	2 1/4	...	2 1/4	2 1/4
2 1/2	2 1/2	2 1/2	2 1/2	...	2 1/2	...	2 1/2	2 1/2
2 3/4	2 3/4	2 3/4	2 3/4	...	2 3/4	...	2 3/4	2 3/4
3	3	3	3	...	3	...	3	3
3 1/8	...	...	...	...	...	...	...	...
3 1/4	...	...	...	...	...	...	...	...
3 1/2	...	...	...	...	...	...	...	...
3 3/4	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...
4 1/8	...	...	...	...	...	...	...	...
4 1/4	...	...	...	...	...	...	...	...
4 1/2	...	...	...	...	...	...	...	...
4 3/4	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...
5 1/8	...	...	...	...	...	...	...	...
5 1/4	...	...	...	...	...	...	...	...
5 1/2	...	...	...	...	...	...	...	...
5 3/4	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...
6 1/8	...	...	...	...	...	...	...	...

Millimeters	Inches	Millimeters	Inches
1	0.0394	51	2.0079
2	0.0787	52	2.0472
3	0.1181	53	2.0866
4	0.1575	54	2.1260
5	0.1968	55	2.1653
6	0.2362	56	2.2047
7	0.2756	57	2.2441
8	0.3150	58	2.2835
9	0.3543	59	2.3228
10	0.3937	60	2.3622
11	0.4331	61	2.4016
12	0.4724	62	2.4409
13	0.5118	63	2.4803
14	0.5512	64	2.5197
15	0.5905	65	2.5590
16	0.6299	66	2.5984
17	0.6693	67	2.6378
18	0.7087	68	2.6772
19	0.7480	69	2.7165
20	0.7874	70	2.7559
21	0.8268	71	2.7953
22	0.8661	72	2.8346
23	0.9055	73	2.8740
24	0.9449	74	2.9134
25	0.9842	75	2.9527
26	1.0236	76	2.9921
27	1.0630	77	3.0315
28	1.1024	78	3.0709
29	1.1417	79	3.1102
30	1.1811	80	3.1496
31	1.2205	81	3.1890
32	1.2598	82	3.2283
33	1.2992	83	3.2677
34	1.3386	84	3.3071
35	1.3779	85	3.3464
36	1.4173	86	3.3858
37	1.4567	87	3.4252
38	1.4961	88	3.4646
39	1.5354	89	3.5039
40	1.5748	90	3.5433
41	1.6142	91	3.5827
42	1.6535	92	3.6220
43	1.6929	93	3.6614
44	1.7323	94	3.7008
45	1.7716	95	3.7401
46	1.8110	96	3.7795
47	1.8504	97	3.8189
48	1.8898	98	3.8583
49	1.9291	99	3.8976
50	1.9685	100	3.9370

## METAL THICKNESS CHART

Gage No.	American or Brown & Sharp (Other Metals)	U. S. Standard (Steel)	Gage No.	American or Brown & Sharp (Other Metals)	U. S. Standard (Steel)
1	.2893	.28125	16	.05082	.0625
2	.2576	.26562	17	.04526	.0562
3	.2294	.2500	18	.04030	.0500
4	.2043	.2343	19	.03589	.0437
5	.1819	.2187	20	.03196	.0375
6	.1620	.2031	21	.02846	.0343
7	.1443	.1875	22	.02535	.0312
8	.1285	.1718	23	.02257	.0281
9	.1144	.1562	24	.02010	.0250
10	.1019	.1406	25	.01790	.0218
11	.09074	.1250	26	.01594	.0187
12	.08081	.1093	27	.01420	.0171
13	.07196	.0937	28	.01264	.0156
14	.06408	.0781	29	.01126	.0140
15	.05707	.0703	30	.01003	.0125

## DECIMAL EQUIVALENTS

1/32	.0156	17/32	.5156
1/16	.0312	3/4	.5312
3/32	.0468	5/8	.5468
1/8	.0625	7/8	.5625
5/32	.0781	1 1/8	.5781
3/16	.0937	1 1/4	.5937
7/32	.1093	1 1/2	.6093
1/4	.1250	1 3/4	.6250
5/16	.1406	2	.6406
3/8	.1562	2 1/4	.6562
7/16	.1718	2 1/2	.6718
1/2	.1875	2 3/4	.6875
5/8	.2031	3	.7031
3/4	.2187	3 1/4	.7187
7/8	.2343	3 1/2	.7343
1 1/8	.2500	3 3/4	.7500
1 1/4	.2656	4	.7656
1 1/2	.2812	4 1/4	.7812
1 3/4	.2968	4 1/2	.7968
2	.3125	4 3/4	.8125
2 1/8	.3281	5	.8281
2 1/4	.3437	5 1/4	.8437
2 1/2	.3593	5 1/2	.8593
2 3/4	.3750	5 3/4	.8750
3	.3906	6	.8906
3 1/8	.4062	6 1/4	.9062
3 1/4	.4218	6 1/2	.9218
3 1/2	.4375	6 3/4	.9375
3 3/4	.4531	7	.9531
4	.4687	7 1/4	.9687
4 1/8	.4843	7 1/2	.9843
4 1/4	.5000	7 3/4	1.0000

## DRILL SIZES FOR TAPPING THREADS

Screw Size	N. C. Pitch (Coarse)	Drill Size	Decimal Equiv.	N. F. Pitch (Fine)	Drill Size	Decimal Equiv.
No. 0	...	...	...	80	3/64	.0469
No. 1	64	#53	.0595	72	#53	.0595
No. 2	56	#50	.0700	64	#50	.0700
No. 3	48	#47	.0785	56	#45	.0820
No. 4	40	#43	.0890	48	#42	.0935
No. 5	40	#38	.1015	44	#37	.1040
No. 6	32	#36	.1065	40	#33	.1130
No. 8	32	#29	.1360	36	#29	.1360
No. 10	24	#25	.1495	32	#21	.1590
No. 12	24	#16	.1770	28	#14	.1820
1/4	20	#7	.2010	28	#3	.2130
3/8	18	F	.2570	24	I	.2720
1/2	16	5/16	.3125	24	Q	.3320
3/4	14	U	.3680	20	2 3/64	.3906
1	13	27/64	.4219	20	2 1/2	.4531
1 1/8	12	31/64	.4844	18	3 1/64	.5156
1 1/4	11	17/32	.5312	18	3 1/8	.5781
1 1/2	10	21/32	.6562	16	1 1/2	.6875
1 3/4	9	49/64	.7656	14	1 1/4	.8125
2	8	7/8	.8750	14	1 1/8	.9375
2 1/8	7	1 1/8	.9844	12	1 1/4	1.0469
2 1/4	6	1 1/4	1.1094	12	1 1/2	1.1719
2 1/2	6	1 1/2	1.2187	12	1 3/4	1.2969
	5	1 3/4	1.3437	12	2	1.4219
	5	2	1.5625			
	4 1/2	2 1/8	1.7812			
	4 1/2	2 1/4	2.0312			
	4	2 1/2	2.2500			



